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TENURE STATUS AND LAND USE PATTERNS IN THE CORN BELT  
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LAND ECONOMICS REPORTS - No. 5

U. S. Department of Agriculture  
Washington, D. C.  
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Washington, D. C.  
August 1939

### Acknowledgment

Acknowledgment is made of the cooperation of the Bureau of the Census, Department of Commerce, in permitting the tabulation of data from the Census schedules, and for the services rendered in planning and supervising the tabulation of the data for the eight selected areas upon which this study was based.

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## INTRODUCTION

One of the most serious land problems of the Corn Belt is soil erosion and soil depletion. Large areas of once-fertile soil have already been rendered useless for further productive use as cropland except at prohibitive costs for reclamation, and vast acreages of land now in farms are being rapidly washed away. The thin layer of fertile soil is the capital wealth upon which the agricultural industry of the area depends. The consequences of the continued loss of top soil or of its fertility are obvious. The repercussions of this occurrence are not confined to the individual farm operator who



must now find another source of income. Farm abandonment means a reduced tax base for local governments, and a lowered market outlet for the merchants of the area. The effects of a decadent agriculture are cumulative and the whole economy of the region suffers.

But loss of revenue and income is not the only effect of soil erosion and soil depletion. Soil washed from farm fields is moved to other areas where some of it fills depressions, clogs streams, covers roadways, and silts up reservoirs. These depositions add to the costs of local and State Governments and contribute as well to the national problem of flood control. Moreover, unchecked soil erosion on one farm may bring about destruction of other farms farther down a slope. Continued soil erosion will increase burdens upon future generations.

To be sure, some subsoil and depleted topsoil may be tilled but the economic obstacles are far beyond those that are encountered in the cultivation of the topsoil. Severely eroded land may be reclaimed, but considering the farm prices that seem probable for the near future, these engineering feats can be accomplished only at prohibitive cost.

The amount and intensity of rainfall both have a considerable influence upon the rate of erosion, and cannot be controlled by man. Increased absorption, however, will decrease the amount of water that runs off over the surface. By increasing the organic-matter content of the soil, the farm operator can increase soil fertility and the water-absorbing ability of the soil and thus reduce run-off.

The organic-matter content of a soil, in turn, is dependent to a large extent upon the character of land use. Along with the organic-matter content of the soil, more absorption is permitted when water run-off is retarded by some form of vegetative covering, since such covering protects the soil from erosion both by retarding run-off and by holding the soil in place. Bare fields that are unprotected by plants are seriously subject to erosion. Clean-tilled crops, like corn, provide little protection against soil erosion, and heavy cropping of this kind reduces the productivity of formerly fertile land to the point where ultimate abandonment is necessary.

The agriculture of the Corn Belt is faced with three major adjustments in land use if the progressive loss of the soil resources is to be prevented. To attain this end, a small area of highly erodible land on steep slopes must be retired from cultivation and grazing for all time; other lands, where erosion is now in the incipient stage, will require care, attention and less cropping in intertilled crops; and many fairly level areas where erosion is not a marked problem must be so utilized that continued soil depletion will not result in ultimate farm abandonment.

Considerable readjustment in Corn Belt agriculture is essential if these goals are to be realized. Rotation pastures and increased cattle production must replace the intensive corn farming of a part of the region. This shift entails far-reaching implications for the

farmers of the Corn Belt, many of whom will find themselves unable profitably to make the required adjustments even with considerable public subsidy.

Various public programs have been developed to combat the growing "menace" of soil erosion and soil depletion. The need for and methods of soil conservation have been carried to farm operators by the various educational and extension services of State and Federal agencies. Definite action programs to subsidize and encourage erosion-control have been developed by the Federal Government. The people of America have become conscious of their soil-depletion problem and are doing something about it. These programs, both of education and of subvention, are attempting to bring about adjustment in farm organization which will facilitate the conservational activities of individual farmers. But farming systems and practices are deeply rooted in tradition, and they may persist much longer than physical and economic conditions warrant. Such rigidities and inertias inevitably will hamper the program of agricultural readjustment.

Habitual or customary ways of farming, traditional attitudes toward land, and institutions that have grown up within the agricultural industry are of extreme importance in aiding or handicapping the advances of erosion-control projects and programs. An important institution within the Corn Belt agriculture is farm tenancy. The growth of tenant farming is one of the outstanding changes in the farming pattern of this region. With only 354,159, or 37 percent, of the 956,750 farms operated by tenants in 1910, the number of tenant farms increased by 21 percent during the next quarter century, while farms not operated by tenants decreased by 13.2 percent, so that in 1935, 428,425, or 45 percent, of the 951,178 farmers of the Corn Belt were tenants (table 1).

From the standpoint of soil conservation this increase in tenant operation of farms raises three significant questions: Does the prevalence of tenant farming in the Corn Belt cause a more rapid rate of soil erosion or fertility depletion than would prevail if all the farms were owned by their operators? Does the prevalence of tenancy and the type of tenure system handicap the accomplishment of the desired ends of a soil-conservation program? Do tenant farmers differ significantly from owner farmers in the exploitative character of their farm organization?

The analysis presented in this report will provide a preliminary answer to these questions. The land utilization and the livestock enterprises on farms have a strong influence upon the rate of fertility depletion and of soil erosion in an area. The importance of the vegetative covering of a soil has been pointed out. The proportional use of land for trees, pasture, hay, and intertilled crops on farms has considerable force in determining the quantity of water which runs over the land of the farm and the speed with which it travels. Consequently, on land of the same slope and physical erodibility, land use plays an important part in controlling the quantity of soil actually washed away.



Table 1.--Growth of tenancy in the Corn Belt, 1910-35 1/

Year	Total farms			Farms not operated by tenants			Farms operated by tenants			Percentage of tenancy on all farms
	Number	Change from pre- ceding period	Percent	Number	Change from pre- ceding period	Percent	Number	Change from pre- ceding period	Percent	
1910	956,750	--	--	602,591	--	--	354,159	--	--	37.0
1920	927,669	-29,081	-3.0	557,162	-45,429	-7.5	370,507	16,348	4.6	39.9
1930	896,515	-31,154	-3.4	512,762	-44,400	-8.0	383,753	13,246	3.6	42.8
1935	951,178	54,663	6.1	522,753	9,991	1.9	428,425	44,672	11.6	45.0

1/ Arranged from Census publications.



The number and type of livestock kept on farms are usually closely connected with land use. Not only does the feeding of livestock on the farm keep more soil fertility at home than would be retained if a large proportion of the land were used for the production of crops to be sold off the farm, but the increased supply of barnyard manure, if properly applied to the land, increases the organic-matter content as well as the fertility of the soil. Land utilization and livestock enterprises thus form reliable criteria of the exploitative nature of a farm organization. A farming system with a high proportion of land in intertilled crops, and a low proportion in pasture and woodland, which places little emphasis upon the production of roughage-consuming livestock, can be called essentially an exploitative type of farm organization.

#### PURPOSE AND METHOD OF STUDY

The specific purpose of the study here reported was to determine whether or not significant differences in land-use patterns and livestock enterprises exist between owner-operated farms and tenant-operated farms in the Corn Belt. The material upon which this analysis is based was obtained from the schedules of the 1935 Census of Agriculture through a special tabulation of the data secured within selected areas. The Census reported a total of 15,223 farmers in these areas in 1935, of whom 5,427, or 35.7 percent, owned all the land they operated, and 7,352, or 48.3 percent, rented all the land they operated.

#### Selection of Areas

Eight areas in the Corn Belt were selected for this study, one area in each type-of-farming subregion except one.<sup>1/</sup> The description and composition of these areas are given in table 2. The location of the areas in relation to the type-of-farming subregions from which they were selected is shown in figure 1.

The primary purpose of the selection was to obtain areas which are more or less uniform within themselves from the standpoint of the physical and economic background of the farms in the area, rather than to obtain areas which are necessarily representative of the type-of-farming subregions. This procedure was followed so that the farm organization on tenant farms could be compared with that on owner farms where both were subjected to the same general influences.<sup>2/</sup>

<sup>1/</sup> Type-of-farming regions and subregions were taken from Regional Problems in Agricultural Adjustment, Agricultural Adjustment Administration, U. S. Department of Agriculture. March 1936.

<sup>2/</sup> The areas included in this study were selected by James G. Maddox and Marshall Harris, then of the Land Use Planning Section, Land Utilization Division, Resettlement Administration.

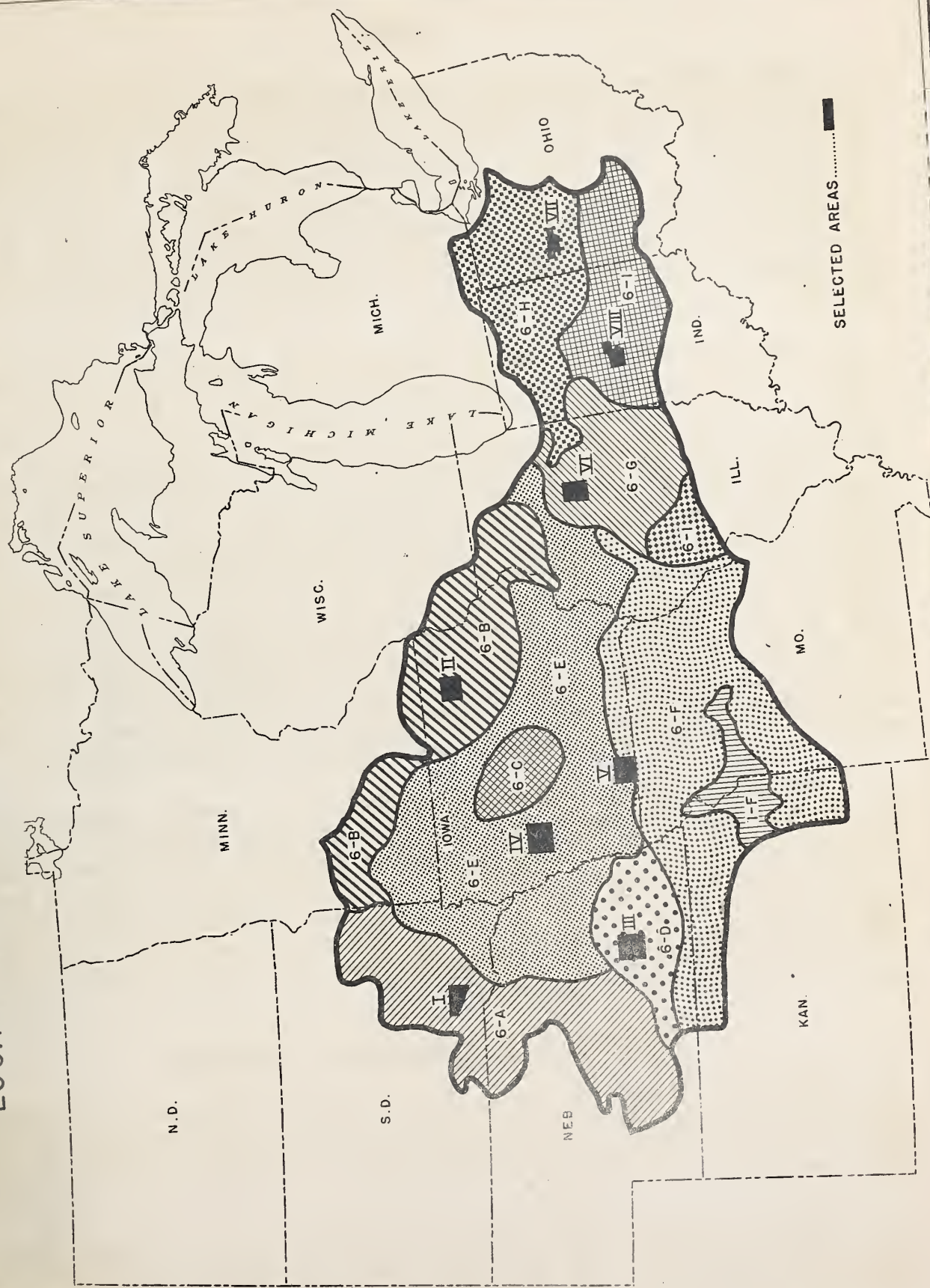
Table 2.--Location of areas selected for study in the Corn Belt 1/

Area number	Type of farming subregion in which located	State	County	Minor civil subdivision
Area 1	6-A Western transition	South Dakota	Douglas	All
Area 2	6-B Northern livestock--dairy	Iowa	Chickasaw	All
Area 3	6-D Cash corn and small grain	Nebraska	York	All
Area 4	6-E Central intensive feeding	Iowa	Crawford	All townships except East Boyer, and Union
Area 5	6-F Southern pasture and feeding	Iowa	Ringgold	All
Area 6	6-G Cash corn and small grain	Illinois	Woodford Lasalle Livingston	Panola and Minonk Groveland and Osage Amity, Longpoint, Nebraska, Newtown, Pike, Reading, Rooks Creek, and Waldo
Area 7	6-H General farming, dairy, and crop specialities	Ohio	Auglaize	All townships except St. Marys, German, and Jackson
Area 8	6-I Livestock and soft winter wheat	Indiana	Boone	All townships except Sugar Creek, Union, Eagle, and Washington

1/ Type-of-farming regions and subregions were taken from Regional Problems in Agricultural Adjustment. Agricultural Adjustment Administration, U. S. Department of Agriculture, March 1936.



FIGURE ONE  
LOCATION OF SELECTED AREAS IN THE CORN BELT



The influence that large centers of population could be expected to have on the factors studied was reduced by excluding from the areas selected those minor civil divisions in which large urban developments were located. Areas farther removed from cities were given preference in selection over areas near large population centers. Although urban influences on farm organization were not completely eliminated by this procedure, the effect is to relieve the analysis of the disrupting influences of the usual clustering of dairy and truck farms around cities.

Other things being equal, counties with recent soil maps were given preference over counties with old soil maps or counties in which a soil survey had not been made. From these maps an attempt was made to select only those areas that were fairly homogeneous from the standpoint of soils and topography. Through this selection of homogeneous areas, the influence of uneven distribution of owner and tenant farms over different soil types and over land of varying topography has been partially eliminated. It is probable that this methodical insistence upon uniformity with respect to topography may have resulted in a bias toward the selection of more areas with level or only slightly rolling topography and fewer with steep or rugged hills and slopes. If this is true, it is probable that the areas selected are less troubled with soil erosion than is typical of some Corn Belt areas. Moreover, it should be pointed out that soil-erosion condition was not one of the criteria used in selecting the areas studied.

Limitation of the funds available for the special tabulation of the Census material, which was necessary for this analysis, required that the number of minor civil divisions selected within each area be restricted to the number necessary to supply the total number of farms which would provide significant figures upon subsequent sorting and classification. The small geographic extent of individual areas insures reasonable uniformity in the climatic forces which bear upon the organization of the farms in the area.

#### Criteria of Farm Organization Selected

Since the major purpose of this study was to learn the comparative land-use patterns on tenant and on owner-operated farms, the use of land and the ownership of livestock were selected as the criteria of farm organization to be used.

Data on specific items that are important from the standpoint of soil conservation form the basic material from which the special tabulations were derived. For each farm in the selected areas the following items were taken from the Farm and Ranch Schedule of the 1935 Census of Agriculture: (1) total acreage in farm; (2) the acreages of (a) crop land harvested, (b) crop failure, (c) cropland idle or fallow, (d) plowable pasture, (e) woodland pasture, (f) other pasture, (g) woodland not pastured, (h) all other land in farm, and (i) corn for grain; (3) the numbers of (a) workstock, (b) cattle and calves, (c) cows



milked, and (d) swine on the farm; (4) the amount of milk produced on the farm; and (5) the number of persons on the farm. From these basic data various combinations and derived figures have been calculated. Unfortunately, income and cost data were not available. The number of sheep on farms was not among the items included in the special tabulation, since sheep play only a small part in the organization of the farms in the areas selected. The acreage of intertilled crops would have been particularly valuable for this study. However, considerations of cost made it seem impracticable to break the "cropland harvested" figure into its composite parts, beyond taking out the acreage of corn harvested for grain.

### Significance of Tenure Status

The tenure status of a farmer is nothing more than an expression of the relationship of the farmer to the farm he operates, insofar as its ownership, control, and possession are concerned. The 1935 Census of Agriculture classified farm operators into the following three general classes according to the tenure under which they operated their farms:

- "1. Owners own all or part of the land which they operate. Separate figures are shown for two types of owners, namely, full owners and part owners. Full owners own all the land they operate. Part owners own a part and rent from others the rest of the land they operate.
- "2. Managers operate farms for others and receive wages or salaries for their services . . .
- "3. Tenants operate hired or rented land only . . ." 3/

Of necessity, this tenure-status classification was utilized in the special tabulation. Managers and part-owners, however, were not included in the analysis. A consideration of farms operated by hired managers is not pertinent to this study and, moreover, the manager group includes such exceptional farming units as country homes of urban people, public and institutional farms and others that do not make a group of farms to which general statements may be applied. Likewise, part-owners form a group with mixed relationships, and inasmuch as data differentiated as between land rented and land owned are not available on the 1935 census schedule, a consideration of the implications of the farming done by part-owners could not be satisfactorily undertaken. Moreover, the number of part-owner and manager farms was so small that many of the averages obtained upon classification would not be significant.

3/ U. S. Census of Agriculture, 1935 Vol. II. U. S. Department of Commerce, Washington, 1936.

In considering these comparisons between full-owner and tenant farms, it must be recognized that neither the institution of ownership nor the institution of tenancy is everywhere uniform and definite. Each tenure status is merely a name given to a certain state or position of the relationship between men in their relation to land. The words "tenancy" and "ownership" become descriptive only when qualified and given definite characteristics. For the present purpose, however, it was necessary to use the classification of the Census rather than to use a classification more adaptable. Probably such a treatment is completely justified owing to the fact that much of the past thinking of tenancy in this country, and particularly that statistical work which has been done, has followed the distinctions used here.

In using this designation of tenure status, the composition of each class should be kept in mind. The owner classification includes all farmers who have some show of title to all the lands they operate, regardless of the mortgaged indebtedness or other incumbrances against the farm. If it is generally true, as investigations have found to be the case in various local areas, that the exploitative character of the farm organization varies inversely with the proportion of equity which the farmer has in his property, then the figures based upon a composite number of farmers with varying degrees of equity in their holdings should show a type of farm organization that is relatively more exploitative than that of a "pure" group which contained only owner farmers with complete or nearly complete equity in the farms they operated.

Moreover, the tenant classification contains both "related" and "nonrelated" tenants. Schickele and Himmel <sup>4/</sup> have pointed out that in Iowa closely related tenants have a farm organization very similar to that of owner operators, so that from the standpoint of farm organization they can be considered in the same class. If this observation is true of related tenants in general, the figures analyzed in this study show a more conservative type of farming than actually exists on tenant farms operated under an impersonal and purely commercial landlord-tenant relationship.

Thus, if these observations are true, there is a bias in data based upon the Census classification of tenure status which has a tendency to bring the various measures of farm organization of the two tenure classes closer together. The actual difference in farm organization, as between owners with 100 percent equity and nonrelated tenants, is thus much greater than that shown in the subsequent comparisons.

Moreover, this analysis could not take into consideration the various types of leasing arrangements. It is exceedingly probable that considerable differences in regard to farm organization exist as between

<sup>4/</sup> Schickele, Rainer and Himmel, John P. "Problems of Land Tenure in Relation to Land Use Adjustments." Land Use Planning Publication No. 9, Resettlement Administration, Washington, 1936. p. 13.



cash tenants, crop-share tenants, and stock-share tenants, not to mention variations due to differences in the amount of rent payment within each of these groups. The figures obtained for tenants from census data are the composite result of the factors and influences within each of these subgroups or types of tenants.

### Comments on Method of Analysis

It is a well-established dictum that a concomitant variation between two variables does not prove that "causal" relationships are involved. Thus, it is conceivable that the cause-and-effect sequence of the relationship between land-use patterns and tenure status may run from the former to the latter or from tenure status to land use. Moreover, it is highly probable that the sequence may run in both directions. That is to say, under any existing institutional set-up as it concerns farm tenure, the type of agriculture in a region may be an important force determining the prevalence of tenancy, while at the same time the fact that our laws and customs foster certain types of tenancy may be a contributing factor to the type of agriculture. It is probable, however, that there is an additional complexity to this cause-and-effect relationship. Although in broad outline the type-of-farming largely determines the prevalence of tenancy in a region, it may also be true that within small localized areas subjected to the same general conditions that influence land utilization, tenant farmers follow a more exploitative farming system than do owners.

Even should the cause-and-effect sequence be properly determined, there still exists the almost insurmountable problem of holding constant a vast number of forces that may have an influence upon the decisions of farmers concerning the use of their land and the keeping of livestock. Many of these influences cannot be measured in numerical terms for purposes of a quantitative analysis. A mere listing of all the circumstances that may have some influence on farm organization would form a statement of considerable length. Moreover, many of these factors are multifariously interrelated with one another.

Again it can be said that a "straight line" cause-and-effect sequence rarely ever exists. However, the establishment of the cause-and-effect relationship in this study is not so important as the determination of whether differences are of such magnitude as to be significant. Readjustments of farm organization in large parts of the Corn Belt are imperative for the accomplishment of soil conservation and sound development of farm life. The areas where such readjustment is most pressing are areas of high tenancy. Thus, whether the tenure-status-farm-organization causal sequence is established or not, it is the tenant farmers of the Corn Belt, to a large extent, who must make the readjustments in their farm organization before satisfactory progress in soil conservation can be made. This statement is all the more true if it is found that tenant farmers are likely to follow a more exploitative system of farming than are neighboring owners.

If this highly complex problem is studied from the standpoint of the group behavior of farmers under different tenure arrangements within small localized areas, it seems likely that the investigation would furnish indications of conditions sufficiently accurate to serve as a tentative basis for formulating policies and as a frame of reference for more detailed research studies.

To obtain an objective measure of the group behavior of farmers, a cross-classification on the basis of "size of farm" and "years of continuous operation by the occupant" has been used throughout this study. The entire purpose of the classification has been to eliminate different factors that might have an influence upon farm organization, in order to study the residual differences between full-owner and tenant-operated farms.

The term "size of farm", as used in this discussion, refers to the total number of acres in the farm as reported by the 1935 Census of Agriculture. Six size groups were selected: under 50 acres, 50-109 acres, 110-209 acres, 210-269 acres, 270-369 acres, and 370 acres and over. Farms were classified into five groups based on the number of years the occupant had operated the farm on which he resided on January 1, 1935: less than 2 years, 2-4 years, 5-9 years, 10-14 years, and 15 years or over. The term "years operated" as used here refers to the number of consecutive years the farm occupant had operated the farm on which he resided on January 1, 1935. The 1935 Farm and Ranch Schedule carried the question: "4. Year when you first began to operate this farm? Year". The number of years between 1935 and the

date given in answer to this question was considered as the "years operated". Probably, in the great majority of cases, the figure thus obtained is an accurate picture of the number of years the farm operator, residing on the farm in 1935, had been in continuous operation of the farm. An occasion for error occurs, however, in those cases where the 1935 farm operator had formerly operated the farm, moved away, and subsequently moved back to the farm as its operator. All errors of this kind would have an effect of increasing the apparent stability of operation, and would thus decrease any apparent relationship between the length of the period of operation and the dependent variables measured.

By grouping and subgrouping farms according to these criteria, it is possible to segregate approximately the influence of these factors, provided the number of cases in any subgroup does not fall too low. Empirical experimentation indicates that 10 to 12 cases are a minimum number necessary to cancel out both chance distribution and the variations due to purely personal differences between individual farms in the group averages. In order to have a margin of safety, 20 has been rather arbitrarily selected as the minimum number of cases in a class for the average to be considered significant when all owner farms are compared with all tenant farms. When all eight areas are considered together, there is no class group of owners or tenants that falls below this minimum number (table 3). When the farms were classified by tenure status of operator and by size, or when they were classified by tenure status of operator and by length of continuous operation, 12 was used



Table 3.--Number of farms in selected areas of the Corn Belt by size of farm, years of occupancy, and tenure status of operator, 1935 1/

Length of occupancy: and tenure status of operator		Number of farms by size groups						
		All size: groups	Under 50 acres	: 50-109: acres	: 110-209: acres	: 210-269: acres	: 270-369: acres	: 370 acres and over
		Number	Number	Number	Number	Number	Number	Number
All farms	:	15,223	: 2,155	: 3,291	: 6,386	: 1,583	: 1,280	: 528
Full-owners	:	5,427	: 1,361	: 1,406	: 1,890	: 363	: 277	: 130
Part-owners	:	2,359	: 134	: 358	: 900	: 396	: 360	: 211
Managers	:	85	: 5	: 14	: 37	: 11	: 10	: 8
Tenants	:	7,352	: 655	: 1,513	: 3,559	: 813	: 633	: 179
Less than 2 years	:	3,157	: 618	: 880	: 1,225	: 224	: 159	: 51
Full-owners	:	511	: 179	: 162	: 122	: 25	: 15	: 8
Part-owners	:	188	: 36	: 50	: 69	: 16	: 11	: 6
Managers	:	44	: 1	: 10	: 24	: 2	: 5	: 2
Tenants	:	2,414	: 402	: 658	: 1,010	: 181	: 128	: 35
2 - 4 years	:	2,596	: 315	: 621	: 1,172	: 244	: 166	: 78
Full-owners	:	603	: 175	: 180	: 191	: 28	: 17	: 12
Part-owners	:	238	: 17	: 55	: 102	: 29	: 17	: 18
Managers	:	20	: 1	: 1	: 5	: 5	: 4	: 4
Tenants	:	1,735	: 122	: 385	: 874	: 182	: 128	: 44
5 - 9 years	:	2,533	: 281	: 458	: 1,179	: 290	: 244	: 81
Full-owners	:	727	: 209	: 187	: 262	: 36	: 24	: 9
Part-owners	:	359	: 22	: 65	: 153	: 56	: 42	: 21
Managers	:	11	: 1	: 1	: 4	: 3	: 1	: 1
Tenants	:	1,436	: 49	: 205	: 760	: 195	: 177	: 50
10 - 14 years	:	1,827	: 225	: 318	: 813	: 207	: 197	: 67
Full-owners	:	644	: 176	: 160	: 230	: 40	: 26	: 12
Part-owners	:	385	: 17	: 46	: 159	: 61	: 73	: 29
Managers	:	3	: ---	: 1	: 2	: ---	: ---	: ---
Tenants	:	795	: 32	: 111	: 422	: 106	: 98	: 26
15 years or over	:	4,904	: 662	: 972	: 1,922	: 601	: 498	: 249
Full-owners	:	2,860	: 589	: 697	: 1,063	: 231	: 192	: 88
Part-owners	:	1,165	: 39	: 139	: 410	: 230	: 211	: 136
Managers	:	6	: 2	: 1	: 2	: ---	: ---	: 1
Tenants	:	873	: 32	: 135	: 447	: 140	: 95	: 24
Not reporting <u>2/</u>	:	206	: 54	: 42	: 75	: 17	: 16	: 2
Full-owners	:	82	: 33	: 20	: 22	: 3	: 3	: 1
Part-owners	:	24	: 3	: 3	: 7	: 4	: 6	: 1
Managers	:	1	: ---	: ---	: ---	: 1	: ---	: ---
Tenants	:	99	: 18	: 19	: 46	: 9	: 7	: ---
	:		:	:	:	:	:	:

1/ Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

2/ Farms not reporting the number of years the occupant had operated continuously the farm on which he resided in 1935.

as the minimum number. When the farms were classified by tenure status, size, and years of continuous operation, 10 has been considered a minimum number of cases to provide significant averages for purposes of comparison of owners and tenants. Throughout all the tables, those averages which were calculated from a group of farmers smaller than the minimum number selected have been enclosed in parentheses (). An asterisk (\*) has been used to show those class groups having an opposite relationship from the major tendency shown by the table in question.

Table 4 shows the prevalence of ownership and tenancy in each individual area studied in terms of number of farms involved and of acreage of land in these farms.

In addition to this cross-classification procedure, the data were further refined by selecting certain farms with similar characteristics; while some of the comparisons refer to all the farms in the area, certain other comparisons refer only to those farms reporting crop land in 1934, to those reporting crop land harvested in 1934, or to those reporting corn harvested for grain.

A formal mathematical measure of the significance of the differences between the tenure groups has not been made. However, it can accurately be said that when a particular relationship appears with marked consistency throughout a series of cross-classifications, the significance that can be attributed to the relationship is increased thereby.

Although this investigation does not presume to measure or to analyze all of the influences that have a bearing upon the farm organization of individual farms, it does present added weight to substantiate the hypothesis that tenure status has a causal relationship to land use. If a significant difference in farm organization as between tenant-operated farms and owner-operated farms remains after a considerable number of the factors influencing farm organization are partially or wholly removed, it would appear that some factor, which has an unequal influence on farms in different tenure classes, still remains unaccounted for. The present investigation removes a considerable number of the more general factors influencing farm organization that are present in published Census data, while at the same time it uses a much larger number of farms as a basis for the analysis than has been possible in most field-survey investigations.

#### FARM SIZE IN RELATION TO TENURE STATUS

Before examining comparative land-use patterns and livestock enterprises of tenant and owner farmers, it is desirable to have a clear picture of the relative size of farms operated by the two groups. Farm size has often been considered as one of the most important factors influencing farm organization and land use in the Corn Belt. If this is true, it is imperative that any difference between tenure classes in this regard must be accounted for in the analysis.



Table 4.--Prevalence of ownership and tenancy in selected areas of the Corn Belt, 1935 1/

Area number	Number of farms				Land in farms			
	Total		Total		Total		Total	
	Number	Percent	Number	Percent	Acres	Percent	Acres	Percent
All areas	15,223	36	7,352	48	2,528,420	28	1,162,951	50
Area 1	1,046	25	514	49	273,320	20	122,826	45
Area 2	2,105	39	978	46	310,684	33	150,285	48
Area 3	2,010	28	1,074	53	357,889	23	192,312	54
Area 4	2,336	40	1,161	50	402,687	37	196,863	49
Area 5	2,033	33	1,086	53	330,816	28	172,387	52
Area 6	1,659	25	988	60	269,978	17	167,608	62
Area 7	2,056	45	759	37	197,889	35	80,043	40
Area 8	1,978	42	792	40	185,157	34	80,627	44

1/ Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

Average Size of Farm

Tenant farmers in the Corn Belt operate farms that are considerably larger than those operated by owners (table 5). In each of the individual areas, the average size of tenant-operated farms exceeded that of owner-operated farms. With the exception of the Central Intensive Feeding Area (Crawford County, Iowa) where tenant farms were only 8 acres larger than owner farms, the difference between the tenure groups fluctuated from 20 to 56 acres. For all areas, tenant farms averaged 158 acres in size, or 36 acres larger than the 122 acres in owner-operated farms. Although the average size of farms of both tenure classes fluctuated markedly from one area to another, reflecting differences in topography, type of farming, and location, the most significant relationship for the present purpose is the fact that in every individual area tenant-operated farms exceeded owner farms in size (table 5).

Table 5.--Average size of owner-operated and of tenant-operated farms in selected areas of the Corn Belt, 1935 1/

Area	Average acreage in:	
	Owner-operated	Tenant-operated
	farms	farms
	<u>Acres</u>	<u>Acres</u>
All areas combined:	122	158
1. Western transition	213	239
2. Northern livestock-dairy	125	154
3. Cash corn and small grain	142	179
4. Central intensive feeding	161	169
5. Southern pasture and feeding	139	159
6. Cash corn and small grain	114	170
7. General farming, dairying, and crop specialty	75	105
8. Livestock and soft winter wheat	74	102
	:	:

1/ Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

In both tenure groups farm operators who had operated their farms for longer periods had larger farms than those who had been on their farms for a shorter time. In the full-owner group the increase in size of farm is apparent between each "years operated" group, while tenant-operated farms show little difference in size beyond 5 years continuous operation. These relationships suggest the possibility of two tendencies: first, in both tenure groups restlessness, movement, and instability of occupancy is more prevalent on the small farms than on larger farms; and second, both owner and tenant farmers accumulate more land into their operating unit the longer they live on the same farms (table 6). It is noteworthy that when these farms are classified by the number of years the occupant had been operating the farm, the difference between the



tenure classes becomes greater rather than smaller.

Table 6.—Average size of owner-operated and of tenant-operated farms in selected areas of the Corn Belt, by number of years occupant had operated farm, 1935 1/

Years of occupancy	Average acreage in:	
	Owner-operated	Tenant-operated
	Farms	Farms
	<u>Acres</u>	<u>Acres</u>
All groups	122	158
Less than 2 years	96	130
2 to 4 years	106	157
5 to 9 "	108	183
10 to 14 "	115	181
15 years or over	135	179
Not reporting <u>2/</u>	94	136

1/ Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

2/ Farms not reporting the number of years occupant had been operating continuously the farm on which he was residing in 1935.

#### Distribution of Farms by Size

These figures for average size of farms have more meaning when they are supplemented by the frequency distribution of farms over the various size groups. More than one-fourth of the owner-operated farms in these areas are less than 50 acres in size, while less than one-tenth of the tenant farms are so small. Another one-fourth of the owner-operated farms are 50 - 109 acres, while approximately one-fifth of the tenant farms are of this size. Owner farms to a considerably greater extent than tenant farms are concentrated in the smaller size groups. More than 50 percent of the owner farms are smaller than 110 acres, while less than 30 percent of the tenant farms are so small. Although there is a relatively large proportion (34.8 percent) of owner farms in the next larger size group (110 - 209), nearly half of the tenant farms are found in this group. A greater proportion of tenant farms than of owner farms falls in the "210 - 269 acres" and the "270 - 369 acres" classes, while there is the same proportion of owners as of tenants on farms of 370 acres or over in size (table 7).

These conditions are reflected in the proportion of farms operated by the different tenure classes in the various size-of-farm groups. Ownership is most prevalent on the smallest farms, and decreases almost uniformly as farms become larger. Tenancy is most prevalent on farms of 110-209 acres, and the percentage of tenancy is almost as high in the size group next below (50-109 acres) and the two next above (210-269 acres and 270-369 acres). Tenancy is more prevalent

than ownership in all size groups except the smallest (under 50 acres), where more than 60 percent of the farmers own their farms (table 8). These differences in farm size are due in part to the fact that owner farmers are following a different program of land use than are tenants.

Table 7.--Proportional distribution of owner- and tenant-operated farms, by size groups, in selected areas of the Corn Belt, 1935<sup>1/</sup>

Size of farm	Proportion of farms in class				
	Non-cumulated		Cumulated		
	Owner-	Tenant	Owner-	Tenant-	
	operated	operated	operated	operated	
	farms	farms	farms	farms	
	Percent	Percent	Percent	Percent	
Under 50 acres	25.1	8.9	25.1	8.9	
50 - 109 "	25.9	20.6	51.0	29.5	
110 - 209 "	34.8	48.4	85.8	77.9	
210 - 269 "	6.7	11.1	92.5	89.0	
270 - 369 "	5.1	8.6	97.6	97.6	
370 acres and over	2.4	2.4	100.0	100.0	
Total	100.0	100.0	---	---	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

Table 8.--Proportion of ownership and tenancy by size of farm groups in selected areas of the Corn Belt, 1935<sup>1/</sup>

Size of farm	Proportion of farms in class	
	Owner-operated farms	Tenant-operated farms
	Percent	Percent
Under 50 acres	65.2	30.4
50-109 acres	42.7	46.0
110-209 "	29.6	55.7
210-269 "	22.9	51.4
270-369 "	21.6	49.5
370 acres and over	24.6	33.9
All sizes	35.7	48.3

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

Under ordinary conditions of farming in the Corn Belt, tenant farmers not having an investment in land use their savings to purchase equipment and to hire additional labor for use on a large rented acreage.



Moreover, since the ownership of land brings an income to the owner who operates his own land, it is to be expected that the owner would have less need to extend the size of his holding than would the tenant.

Where farms are rented for a share of the product, there is an added force influencing the tenant to farm a greater number of acres less intensively than he would if he owned the farm himself or rented it for cash. This condition results from the fact that any increased product from a single tract of land due to added expense and labor must be shared with the landlord. The increased product thus adds proportionally less to the income of the share-tenant than if he were receiving all of the added product. It is to the economic advantage of the share-tenant to let the land do relatively more of the work and his own labor and expense do less work per acre than he would if he owned the farm or was renting it on some basis other than share-rent. Moreover, because in paying for land use the share-tenant does not bear a fixed cost per acre, he uses land, so far as practicable, to the end of getting the greatest possible product per unit of labor and operating expenses.

In addition to these economic forces, which could be expected to cause tenants to operate larger farms than owners, is the structure of the process by which those tenants who are fortunate enough to become owners. These farmers are tenants at an early age and become owners as they grow older. This process of becoming an owner is not a sudden change in the financial development of the individual. Usually it does not result immediately in any great increase in the net worth of the farmer. More often the process is merely a substitution of an investment in land for other investments. When this process results in land taking the place of tools and equipment as an investment of savings, it is obvious that the individual is likely to become the owner of a farm smaller in size than the one on which he was formerly a tenant. In fact, this substitution may be profitable to him, since after becoming an owner the farm operator receives a return from the land which he owns rather than being forced to pay rent for a farm which he operates.

Another factor that explains the large number of owner farms in small-acreage groups is the retreat of owners as they become older. As owner farmers become older and the labor force of the family becomes smaller, they sell off or rent out a part of their former farming units.

If farm size is one of the most important factors affecting the organization of the farm enterprise, then the uneven distribution of tenant and owner farms over the various size groups indicates strongly the necessity of holding farm size constant if the comparisons between owner and tenant group averages are to be significant.

#### TENURE STATUS AND THE MAN-LAND RATIO

The members of the farm family still form the basic labor force of farms in the Corn Belt. The size of the operator's family has often

been considered as an important factor influencing the type of land use, as outside laborers are not hired unless the type of farming and the size of the enterprise demands an added supply of labor. It is unfortunate that the figures available for this analysis represent the number of all persons on farm, and is not divided as between the operator's own family and hired laborers. Thus, the composite figures used may be considered as being both a resultant and a causal factor in relation to type of farm organization.

#### Number of Persons per Farm

There was an average of 4.4 persons on each tenant-operated farm, and 3.9 persons on each owner-operated farm in the selected areas in 1935. This relationship appears to have resulted largely from the uneven distribution of owner and tenant farms over the various size-of-farm groups, since, when the data are classified by size of farm, there is no significant difference between the tenure groups except on farms of less than 50 acres in size, where there are nearly 4 persons on each tenant farm and approximately 3 persons on each owner-operated farm. On farms of 370 acres or over in size, there are more persons on each owner farm than on each tenant farm. The number of persons per farm on owner farms begins at a lower figure and increases faster with increases in farm size than does the number of persons on tenant farms (table 9).

Apparently there is no relationship between the length of time the occupant had been operating the farm and the number of persons on the farm. When the data are classified by "years operated" groups, there are no definite or consistent tendencies concomitant with increased stability, the difference between tenure classes remaining fairly constant (table 9).

#### Number of Persons per 100 Acres of Farm Land

The relationships just noted have greater significance and become more apparent when the number of persons is compared with land area. A comparison of the "man-land" ratio on farms of different tenure classes actually represents a composite for the comparison of size of farm and the number of people per farm. Insofar as human needs are concerned, such a composite figure reflects the number of people on land more accurately than does the number of people per farm. There were 3.2 persons to each 100 acres of farm land on owner-operated farms, and 2.8 persons to each 100 acres of tenant-operated farm land in 1935 (table 10). Although owner farms appear to have a significantly greater man-land ratio than tenant farms, this spurious relationship is due entirely to the uneven distribution of owner and tenant farms over the various size groups. In every size group except the smallest (under 50 acres), there is no significant difference between the tenure groups when the data are classified by size of farm. In both tenure groups the numbers of persons on the land decrease consistently and strikingly as farm size increases. On farms smaller than 50 acres in size, those that are tenant-operated have a higher man-land ratio than those that are owner-operated.



Table 9.—Number of persons per farm on owner- and tenant-operated farms by length of occupancy in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Size of farm and tenure status of operator	Number of persons per farm by length of occupancy groups							
	All year groups	Less than 2 years	2-4 years	5-9 years	10-14 years	15 years and over	Not reporting <sup>2/</sup>	
	Number	Number	Number	Number	Number	Number	Number	
All farm sizes								
Owners	3.9	3.5	3.7	3.9	4.0	3.9		3.5
Tenants	4.4	4.0	4.4	4.6	4.8	4.7		4.4
Under 50 acres								
Owners	2.9	3.0	2.8	3.6	3.2	2.7		2.5
Tenants	3.9	3.3	4.3	4.2	4.2	2.8		3.8
50-109 acres								
Owners	3.4	3.5	3.5	3.5	3.4	3.3		3.3
Tenants	3.7	3.5	3.8	3.8	4.0	3.9		3.7
110-209 acres								
Owners	4.3	3.6	4.4	4.2	4.6	4.3		4.1
Tenants	4.3	3.9	4.3	4.4	4.7	4.7		4.5
210-269 acres								
Owners	5.1	4.9	4.6	4.8	5.5	5.1		7.7
Tenants	5.1	5.1	5.3	4.8	5.2	5.3		5.1
270-369 acres								
Owners	5.3	4.7	4.5	5.0	4.9	5.5		7.3
Tenants	5.4	5.0	5.3	5.5	5.5	5.6		6.0
370 acres and over								
Owners	6.4	7.1	6.2	7.0	6.7	6.3		(2.0)
Tenants	5.9	5.7	5.2	6.0	(6.8)	(6.2)		---

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

<sup>2/</sup> Farms not reporting number of years occupant had been operating continuously the farm on which he was residing in 1935.

Table 10.--Number of persons per 100 acres of land on owner-  
and tenant-operated farms in selected areas  
of the Corn Belt, 1935 <sup>1/</sup>

Size of farm and tenure status of operator	No. of persons per 100 acres by length of occupancy groups						
	: All	: Less	:	:	:	: 15	: Not
	: year	: than	: 2-4	: 5-9	: 10-14	: years	: report-
	: groups	: 2 years	: years	: years	: years	: and over	: ing 2/
	: Number	: Number	: Number	: Number	: Number	: Number	: Number
All farm sizes	:	:	:	:	:	:	:
Owners	: 3.2	: 3.6	: 3.5	: 3.6	: 3.5	: 2.9	: 3.7
Tenants	: 2.8	: 3.0	: 2.8	: 2.5	: 2.7	: 2.7	: 3.2
	:	:	:	:	:	:	:
Under 50 acres	:	:	:	:	:	:	:
Owners	: 15.0	: 14.7	: 14.1	: 20.8	: 16.8	: 13.2	: 12.9
Tenants	: 20.1	: 20.2	: 22.5	: 21.3	: 16.9	: 12.9	: 20.8
	:	:	:	:	:	:	:
50-109 acres	:	:	:	:	:	:	:
Owners	: 4.3	: 4.5	: 4.4	: 4.4	: 4.3	: 4.2	: 4.2
Tenants	: 4.5	: 4.4	: 4.6	: 4.5	: 4.8	: 4.8	: 4.3
	:	:	:	:	:	:	:
110-209 acres	:	:	:	:	:	:	:
Owners	: 2.8	: 2.4	: 3.0	: 2.8	: 3.1	: 2.8	: 2.6
Tenants	: 2.8	: 2.6	: 2.8	: 2.8	: 3.0	: 3.0	: 2.9
	:	:	:	:	:	:	:
210-269 acres	:	:	:	:	:	:	:
Owners	: 2.1	: 2.0	: 1.9	: 2.0	: 2.3	: 2.2	: 3.2
Tenants	: 2.2	: 2.2	: 2.2	: 2.0	: 2.2	: 2.2	: 2.2
	:	:	:	:	:	:	:
270-369 acres	:	:	:	:	:	:	:
Owners	: 1.7	: 1.5	: 1.5	: 1.6	: 1.6	: 1.8	: 2.2
Tenants	: 1.7	: 1.6	: 1.7	: 1.6	: 1.8	: 1.8	: 1.9
	:	:	:	:	:	:	:
370 acres and over:	:	:	:	:	:	:	:
Owners	: 1.3	: 1.5	: 1.3	: 1.4	: 1.4	: 1.3	: (.5)
Tenants	: 1.3	: 1.2	: 1.1	: 1.3	: (1.4)	: (1.4)	: --
	:	:	:	:	:	:	:

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

<sup>2/</sup> Farms not reporting number of years occupant had been operating farm on which he was residing in 1935.

There is apparently no relationship between the number of years the occupant had operated the farm and the man-land ratio. Differences in the man-land ratio on farms in the Corn Belt appear to be almost entirely related to differences in size of farm rather than to tenure status. There is little difference between the tenure classes in reference to the number of people per acre when differences in size of farms are accounted for. This indicates that insofar as the number of people is concerned, there should be no difference between the tenure classes in their desire or necessity to use labor-intensive enterprises in their farm organization.

#### LAND UTILIZATION IN RELATION TO TENURE STATUS OF FARM OPERATORS

Differences in the size of farms operated by tenants and by owners and the similarity of the man-land ratio on farms operated by the two tenure groups have been discussed in the preceding sections of this report. The following analysis is made to determine whether these indications are correct, and to determine whether significant differences in land utilization exist as between owner-operated farms and tenant-operated farms.

The land-utilization pattern on farms is the result of many related factors, some of which are subject to change within a year and others of which are the result of the cumulative effects of many years. This statement emphasizes the difficulty encountered by an analysis of comparative land use that must be based upon a cross-section or geographic enumeration of data. In general, it can be said that the land use most often affected by year-to-year decisions relating to farm organization is the use of the plowable land in the farm, while the total extent of plowable land and its proportion relative to the total acreage of the farm is the cumulative result of past decisions as well as the type of soil and topography. Insofar as was reasonably possible, variations in soil types and topography were eliminated in the process by which the areas studied were selected.

#### Land Utilization on all Farms

Although there was no significant difference between owners and tenants relative to the proportional amount of land that each used as unpastured woodland, there does appear to be a significant difference in the comparative amount of land in the "pastured woodland" and "other pasture" classifications. In every area except two, owners had relatively more pastured woodland than tenants, and in all areas except one there was relatively more "other pasture" on owner-operated than on tenant-operated farms.

It could easily be that these differences are due not to differences in type of soil and topography, but to the fact that tenure histories for tenant farms differ from histories for owner farms. That is to say,



it is probable that these relationships may reflect the fact that the recent occupancy of owner-operated farms was by owners, while the recent occupancy of tenant-operated farms was by tenants. Owing to the inability to ascertain completely the meaning of these data, no particular significance can be attached to the differences between farms operated by the two tenure groups.

Of much greater significance is the marked difference between the tenure classes in regard to the relative amount of all land in plowable pasture--this is, the land which, at the beginning of any year, could be plowed and planted to crops, but which by decisions of the operator was used for pasture. On owner-operated farms, 20 percent of all the land was in plowable pasture, while on tenant-operated farms but 14 percent was used in this way (table 11). In every individual area, a higher proportion of the land was used for plowable pasture on owner-operated farms than on tenant-operated farms in the same area. In each case, the difference between tenure classes is of such magnitude as to be considered significant.

Thirty-two percent of the owner-operated land was in pasture of one kind or another, while only 25 percent of the tenant-operated land was in pasture.

That the difference between the tenure classes is not due to differences in farm size is shown by the fact that when the farms are classified by size, owner-operated farms in every size group have a higher proportion of pasture land than do tenant-operated farms in the same size group. This relationship may be given greater significance since it is true in each individual area studied (table 12).

This difference between tenure classes with reference to proportional use of land for pasture is not explained by the fact that fewer tenants than owners had some pasture (table 13). In fact, there is a limited tendency in the other direction; in three of the areas studied a higher proportion of tenants than owners reported pasture; in one area the proportion of each tenure was the same; in no area did significantly more owners than tenants report pasture, while if all areas are combined, there is no difference between the two tenure classes with reference to the proportional number who reported pasture.

As might be expected from the discussion of the proportional use of land for pastures by tenants and owner-operators, tenants used a greater portion of their land for crops than did owners. Over 70 percent of the tenant-operated land was crop land, while only 62 percent of the owner-operated land was in this use (table 11). Idle or fallow land, crop failure, and cropland harvested, each formed a higher proportion of the land on tenant farms than on owner-operated farms.

The influence of the uneven incidence of crop failure upon the land-use data used in this analysis, on the two tenure groups, should be pointed out. In two of the areas crop failure was prevalent in the year

Table 11.--Proportional distribution of land use on owner- and tenant-operated farms in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Tenure status of farm operator by areas	:	:	Proportion of farm land in:									
			: Crop-:			: Crop-:			: Plow-:			
			: land :			: land :			: able :			
			: No. :			: No. :			: No. :			
			All:	har-	fail-	idle	past-	past-	ure	not	in	
			farms:	vested:	ure	or	ure	ured	land	past-	farm	
			:	:	:	:	:	:	:	:	:	
			No.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
All areas	:	:	:	:	:	:	:	:	:	:	:	
Owners	:	:	5,427:	100:	48.5	10.0:	3.4	20.2:	4.5:	7.6:	.6	5.2
Tenants	:	:	7,352:	100:	51.0	14.9:	4.4	14.1:	3.7:	6.8:	.5	4.6
	:	:	:	:	:	:	:	:	:	:	:	:
Area 1	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	258:	100:	44.4	22.6:	3.7	20.3:	.1:	3.7:	.2	5.0
Tenants	:	:	514:	100:	44.5	24.7:	4.2	18.8:	.1:	3.4:	.1	4.2
	:	:	:	:	:	:	:	:	:	:	:	:
Area 2	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	822:	100:	56.0	1.9:	.8	12.7:	4.8:	17.7:	.6	5.5
Tenants	:	:	978:	100:	58.6	2.5:	.9	9.7:	3.9:	18.8:	.6	5.0
	:	:	:	:	:	:	:	:	:	:	:	:
Area 3	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	567:	100:	26.5	44.4:	6.1	6.7:	1.9:	9.4:	.3	4.7
Tenants	:	:	1,074:	100:	28.6	47.8:	6.1	4.3:	1.4:	7.4:	.3	4.1
	:	:	:	:	:	:	:	:	:	:	:	:
Area 4	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	926:	100:	56.5	.9:	3.2	25.9:	1.8:	6.0:	.1	5.6
Tenants	:	:	1,161:	100:	60.2	1.1:	4.5	21.3:	2.8:	4.7:	.1	5.3
	:	:	:	:	:	:	:	:	:	:	:	:
Area 5	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	677:	100:	32.7	8.5:	3.7	33.6:	5.4:	10.0:	.9	5.2
Tenants	:	:	1,086:	100:	38.1	11.5:	5.3	23.4:	6.0:	9.4:	.8	5.5
	:	:	:	:	:	:	:	:	:	:	:	:
Area 6	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	410:	100:	60.7	12.7:	5.3	9.0:	4.3:	3.5:	.0	4.5
Tenants	:	:	988:	100:	65.4	14.0:	5.5	6.2:	2.2:	2.8:	.3	3.6
	:	:	:	:	:	:	:	:	:	:	:	:
Area 7	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	928:	100:	56.9	.6:	2.7	18.6:	10.7:	2.7:	2.4	5.4
Tenants	:	:	759:	100:	64.5	.5:	3.1	13.2:	9.9:	1.8:	2.5	4.5
	:	:	:	:	:	:	:	:	:	:	:	:
Area 8	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	:	839:	100:	53.9	.9:	2.9	25.8:	9.2:	1.4:	.5	5.4
Tenants	:	:	792:	100:	61.7	1.5:	3.3	18.3:	9.0:	1.2:	.5	4.5
	:	:	:	:	:	:	:	:	:	:	:	:

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



Table 12.—Proportion of farm land used for pasture on owner- and tenant-operated farms, by size of farm groups, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Tenure status of operator by areas		Proportion of land in pasture by size of farm groups							
		All	Under						370
		size	50	50-109	110-209	210-269	270-369	acres and	
		groups	acres	acres	acres	acres	acres	over	
		Percent	Percent	Percent	Percent	Percent	Percent	Percent	
All areas									
Owners		32	47	33	31	32	32	35	
Tenants		25	34	26	23	24	25	31	
Area 1									
Owners		24	50	36	22	25	24	(24)	
Tenants		22	35	33	19	21	22	29	
Area 2									
Owners		35	44	34	33	36	39	46	
Tenants		32	34	30	30	35	37	40	
Area 3									
Owners		18	44	22	17	15	16	19	
Tenants		13	30	12	12	14	14	16	
Area 4									
Owners		34	52	31	33	33	34	40	
Tenants		29	29	27	28	30	29	34	
Area 5									
Owners		49	63	48	45	50	50	54	
Tenants		39	49	39	37	39	39	44	
Area 6									
Owners		17	55	16	16	17	14	13	
Tenants		11	44	11	11	11	11	12	
Area 7									
Owners		32	46	30	30	31	32	28	
Tenants		25	26	23	25	24	33	31	
Area 8									
Owners		36	43	36	34	31	37	38	
Tenants		28	31	28	28	27	31	36	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



Table 13.--Proportion of owner- and tenant-operated farms, by size of farm groups, reporting pasture in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		:Proportion of farms reporting pasture by size of farm groups						
Tenure status of operator by areas	:	All :	Under :	:	:	:	:	370
	:	size :	50 :	50-109:	110-209:	210-269:	270-369:	acres and
	:	groups:	acres :	acres :	acres :	acres :	acres :	over
		:Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent
All areas	:	:	:	:	:	:	:	:
Owners	:	94 :	84 :	97 :	98 :	98 :	97 :	98
Tenants	:	94 :	76 :	92 :	96 :	97 :	97 :	98
	:	:	:	:	:	:	:	:
Area 1	:	:	:	:	:	:	:	:
Owners	:	88 :	67 :	80 :	96 :	100 :	96 :	94
Tenants	:	94 :	44 :	67 :	97 :	98 :	95 :	100
	:	:	:	:	:	:	:	:
Area 2	:	:	:	:	:	:	:	:
Owners	:	96 :	82 :	98 :	99 :	100 :	100 :	100
Tenants	:	96 :	66 :	96 :	99 :	98 :	100 :	100
	:	:	:	:	:	:	:	:
Area 3	:	:	:	:	:	:	:	:
Owners	:	83 :	54 :	87 :	91 :	89 :	83 :	95
Tenants	:	82 :	65 :	67 :	83 :	88 :	91 :	93
	:	:	:	:	:	:	:	:
Area 4	:	:	:	:	:	:	:	:
Owners	:	98 :	82 :	97 :	100 :	100 :	100 :	100
Tenants	:	97 :	69 :	92 :	100 :	100 :	100 :	100
	:	:	:	:	:	:	:	:
Area 5	:	:	:	:	:	:	:	:
Owners	:	98 :	93 :	98 :	99 :	100 :	100 :	100
Tenants	:	96 :	82 :	97 :	99 :	100 :	99 :	100
	:	:	:	:	:	:	:	:
Area 6	:	:	:	:	:	:	:	:
Owners	:	90 :	75 :	90 :	97 :	96 :	100 :	100
Tenants	:	93 :	55 :	84 :	95 :	98 :	97 :	92
	:	:	:	:	:	:	:	:
Area 7	:	:	:	:	:	:	:	:
Owners	:	96 :	89 :	100 :	100 :	100 :	100 :	100
Tenants	:	95 :	77 :	97 :	100 :	96 :	100 :	100
	:	:	:	:	:	:	:	:
Area 8	:	:	:	:	:	:	:	:
Owners	:	96 :	90 :	100 :	100 :	100 :	100 :	100
Tenants	:	97 :	90 :	98 :	99 :	100 :	100 :	100
	:	:	:	:	:	:	:	:

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

for which Census statistics apply, and in these areas as well as in other areas there was a greater incidence of crop failure on tenant-operated farms than on farms operated by owners. This uneven incidence of crop failure is significant for two reasons: the indication it gives as to differences in the quality and kind of farming done by the members of the two tenure groups, and the influence it has upon the comparative figures for land use by the two groups.

We shall discuss first the indication as to differences in quality of farming given by the uneven incidence of crop failure on tenant- and on owner-operated farms. Comparison of the proportion of land in crop failure with that from which crops were harvested shows a greater difference between tenants and owners with respect to proportional acreage in crop failure than to that in cropland harvested. This indicates that tenants did not harvest as high a proportion of the land planted to crops as did owners.

There are two possible explanations of this condition. In the first place, it is probable that the moisture condition of the owner-operated farms was better than that on tenant-operated farms. Particularly is this so if there is a tendency for owner-operators to farm more conservationally than tenants. This would mean that owners made better use of the water they received than did tenants. To what extent this is true, however, cannot be determined from available figures. Another reason for the uneven incidence of crop failure on owner and on tenant farms may be the circumstance that tenants more commonly than owners do not harvest crops when affected adversely by drought, insect pests, or hail. This results, in turn, from the fact that when a tenant is renting under a crop-share lease, his cost of harvesting the whole of a poor crop might not be covered by his share of the total product.

With reference to the effect that this uneven incidence of crop failure has upon the data used in this analysis, the influence can best be explained by reference to table 11. The major difficulty involved has to do with the use of the figures for cropland harvested. An examination of table 11 will show that while tenants planted crops on 65.9 percent (cropland harvested plus crop failure) of their land as compared with 53.5 percent of the owner-operated land that was used in this way, the difference between the tenure groups with reference to the proportion of land from which crops were harvested is not nearly so great (51.0 percent for tenants as compared with 48.5 percent for owners).

The statistical implication of this influence becomes more apparent when this same comparison is made of the figures for individual areas. In area 1 (Douglas County, South Dakota), for example, where crop failure was marked, there is very little difference between the tenure groups with reference to the proportional amount of land from which crops were harvested, while at the same time tenants planted crops on a larger proportion of their land than did owner-operators. Since many of the Census data on crop acreage are reported on the basis of harvested acres, the influence discussed here is of considerable



importance. From time to time in the remainder of this analysis, there will be occasion to refer to the influence of the uneven incidence of crop failure upon the statistical data used.

Tenants in every area but one allowed a higher proportion of their land to lie idle or fallow than did owner-operators (table 11). In every area tenants planted crops on a greater portion of their land than did owners.

To some extent this difference between owners and tenants in the proportional use of land for crops can be explained by the fact that more owners than tenants had no crops at all. Only 92 percent of the owner farmers reported cropland, while 98 percent of the tenants reported the use of land for crops. In each individual area this same condition was true. Not more than 4 percent of the tenant farmers in any area were without cropland, whereas in one area 12 percent of the owners reported that they had no cropland (table 14). Farms that reported no cropland are admittedly exceptional farming units, and are often located on land incapable of cultivation. The presence of these farms does, however, have an influence upon group averages when all farms of the area are included in the tabulations. This influence may be removed by eliminating farms without crop land, leaving for consideration only the farms that reported crops.

Table 14.--Proportion of owner- and tenant-operated farms reporting cropland in selected areas of the Corn Belt, 1934<sup>1/</sup>

Tenure status of operator	Proportion of farms reporting crop land by areas										
	All	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
	areas	1	2	3	4	5	6	7	8		
	:	:	:	:	:	:	:	:	:	:	:
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Owners	92	88	96	94	96	91	86	91	91	91	91
Tenants	98	98	99	98	98	96	98	98	98	98	98
	:	:	:	:	:	:	:	:	:	:	:

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

#### Land Utilization on Farms Reporting Crops

When owner-operated farms reporting cropland are compared with tenant-operated farms reporting cropland, the greater emphasis of tenants on crop production is still significant. At the beginning of any year a farm operator has three methods of using plowable land: he may plant the land to crops, he may use the land for pasture, or he may allow it to lie idle or fallow. The proportion of the plowable land handled in each of these ways should be a good indication of the desire or ability

of the operator to farm conservatively rather than exploitatively. These annual recurring decisions of farm operators concerning the use of plowable land play a great part in the continual washing away of some of the Nation's richest land. In many cases, it may be that the individual operator has no other recourse than to use a large proportion of his plowable land for crops at the expense of pastures; the decision may not be his own. In other cases, the individual farm operator is not to be censured, for his decision is influenced not by his lack of regard for the soil, but rather by the impeding influences of the tenancy system under which he operates his farm.

Tenant farmers more than owner farmers are influenced by their status to place greater emphasis upon crop production. Owner farmers who reported cropland placed 24 percent of their plowable land in pasture, while tenants with cropland used only 17 percent of their plowable land for pasture (table 15). In each of the individual areas studied, owner farmers who reported cropland used more of their plowable land for pasture than did tenants who reported cropland. There was little difference between the tenure classes in regard to the proportion of plowable land that was idle or fallow, although in every area where there was a difference, tenants had a greater proportion than owners (table 15).

Considering only those farmers who reported cropland, tenants planted 78 percent of their plowable land to crops, while owners planted only 72 percent to crops. In each of the areas studied tenants planted crops on a greater proportion of their plowable land than did owners. This difference between the tenure classes ranges from less than 2 percent in one area to 10 percent in another (table 15).

#### Land Utilization on Farms Reporting Harvested Crops

Although the incidence of crop failure was greater on tenant than on owner-operated farms, this apparently did not result in a smaller proportion of tenants than of owners who reported harvesting crops. In fact, when the farms are classified by size, there is very little difference between the tenure groups with reference to the proportional number of farm operators who reported harvesting crops, except on farms smaller than 50 acres (table 16).

On farms of more than 50 acres, a very small proportion of both tenants and owners had no harvested crops. This is true in all of the areas studied (table 16). The apparently greater proportion of tenants who reported crops harvested (89 percent of the owners and 94 percent of the tenants) is merely a spurious relationship resulting from the relatively greater number of owner-operated than of tenant-operated farms in the "under 50 acres" size group.

Among farm operators, all of whom reported cropland harvested, tenants placed greater emphasis upon crops and less upon pasture than did owners. Tenant farmers used 17 percent of their plowable land for



Table 15.--Proportional utilization of plowable land on owner- and tenant-operated farms reporting cropland in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Tenure status: of operator by areas	Number of farms	Proportion of plowable land in: <sup>2/</sup>			
		Land planted <sup>3/</sup> to crops	Cropland idle or fallow	Crop- land <sup>4/</sup>	Plowable pasture
		Percent	Percent	Percent	Percent
All areas					
Owners	5,017	72	4	76	24
Tenants	7,179	78	5	83	17
Area 1					
Owners	227	74	4	78	22
Tenants	502	75	5	80	20
Area 2					
Owners	790	82	1	83	17
Tenants	970	85	1	86	14
Area 3					
Owners	531	85	7	92	8
Tenants	1,051	88	7	95	5
Area 4					
Owners	890	66	4	70	30
Tenants	1,137	70	5	75	25
Area 5					
Owners	617	53	5	58	42
Tenants	1,043	63	7	70	30
Area 6					
Owners	351	85	6	91	9
Tenants	965	87	6	93	7
Area 7					
Owners	841	74	3	77	23
Tenants	746	80	4	84	16
Area 8					
Owners	770	66	4	70	30
Tenants	765	75	4	79	21

- <sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; only those farms reporting cropland are included in this table.
- <sup>2/</sup> The area of "plowable land" includes the combined areas of "cropland harvested", "crop failure", "cropland idle or fallow", and "plowable pasture".
- <sup>3/</sup> The area of "planted to crops" includes the area of land planted to crops or the combined areas of "cropland harvested" and "crop failure".
- <sup>4/</sup> The area of "cropland" includes the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow".

Table 16.--Proportion of owner- and tenant-operated farms reporting cropland harvested, by size of farm groups, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		Proportion of farms reporting cropland harvested by size of farm groups							
Tenure status:	Number:								370
of operator	of	All	Under	50-109	110-209	210-269	270-369	acres	
by areas	farms	size groups	50 acres	acres	acres	acres	acres	and over	
	Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
All areas									
Owners	4,848:	89	67	96	97	97	99	100	
Tenants	6,939:	94	70	96	97	96	97	98	
Area 1									
Owners	218:	84	33	(70)	99	96	100	100	
Tenants	497:	97	(33)	89	100	100	99	100	
Area 2									
Owners	786:	96	82	96	99	100	97	(100)	
Tenants	970:	99	90	99	100	100	100	100	
Area 3									
Owners	421:	74	32	76	86	85	93	100	
Tenants	836:	78	31	65	82	83	84	90	
Area 4									
Owners	888:	96	65	99	99	100	100	100	
Tenants	1,137:	98	68	100	100	100	100	100	
Area 5									
Owners	603:	89	60	93	97	98	100	100	
Tenants	1,026:	94	60	98	100	100	99	100	
Area 6									
Owners	348:	85	47	100	100	100	100	(100)	
Tenants	964:	98	43	100	100	100	100	(100)	
Area 7									
Owners	827:	89	73	98	100	100	(100)	(100)	
Tenants	745:	98	87	100	100	100	(100)	(100)	
Area 8									
Owners	757:	90	78	99	99	(100)	(100)	(100)	
Tenants	764:	96	83	100	100	100	(100)	(100)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



pasture, allowed 5 percent to lie idle, and planted crops on 78 percent (table 17). Owner farmers, on the other hand, used 24 percent of their plowable land for pasture, let 4 percent lie idle, and planted crops on 72 percent. The incidence of crop failure was greater on tenant farms than on owner farms. In each of the individual areas studied, owners used a greater proportion of their plowable land for plowable pasture and less for crops than did tenants (table 17).

The fact that these comparisons are made between farms, all of which had some cropland harvested, causes the differences observed to be more significant than would be the case if all the farms in the area were used as the basis of comparison. At the beginning of the year 1934, the tenant farmers of these areas planted crops on a larger portion of their plowable land than did owners. One consequence of this was a difference between the tenure groups in plowable pasture amounting to 7 acres to each 100 acres of plowable land. There was less difference between owners and tenants in the Douglas County, South Dakota area, (Area 1) and more in the Boone County, Indiana area (Area 8) than in any of the other areas studied. To a considerable extent, this condition is due to the fact that the farms in the latter area are considerably smaller than those in the former, and to the tendency in all areas to have a greater difference between the tenure groups on small farms than on larger farms.

When the farms reporting cropland harvested are classified by size, it is observed that tenant farmers in every size group planted a relatively greater part of their plowable land to crops than did owners in the same size groups (table 18). The difference between the tenure classes is considerably greater on the small farms than on the larger farms. Moreover, the farms of 50 to 369 acres in size of both tenure classes have a greater proportion of plowable land in crops than farms that are smaller or larger. Within these limits there appears to be very little relationship between farm size and the use of plowable land for crops.

When those tenant and owner farms that reported cropland harvested are classified by the number of years the occupant had been in continuous operation of the farm on which he was residing in 1935, the difference between tenants and owners remains fairly constant in all groups, with little relationship shown between land use and length of occupancy. In every group, tenants used more of their plowable land for crops and less for pasture than did owners (table 19). Apparently, neither the proportional use of plowable land by tenants and by owners nor the magnitude of the difference between the tenure classes is related to the length of time the occupant had operated the farm. On the other hand, tenant farmers consistently pursue a more exploitative system of farming than do owners. A complete explanation of these observed facts is impossible, although the consistency of the relationships noted adds strength to the conclusion that differences in land use must be explained by some factor inherent in tenure status other than mere difference in location, size of farm, or length of occupancy.

Table 17.--Proportional utilization of plowable land on owner- and tenant-operated farms reporting cropland harvested in selected areas of the Corn Belt, 1934 1/

Tenure status of operator by areas	Proportion of plowable land in: 2/							
	Crop-land		Land planted to crops		Crop-land idle or fallow		Plowable pasture	
	Number of farms	Percent of harvested	Percent of failure	Percent to crops 3/	Percent of fallow 4/	Percent of land	Percent of pasture	Percent
All areas	:	:	:	:	:	:	:	:
Owners	4,848:	61	11	72	4	76	:	24
Tenants	6,939:	63	15	78	5	83	:	17
Area 1	:	:	:	:	:	:	:	:
Owners	218:	50	25	75	4	79	:	21
Tenants	497:	49	27	76	4	80	:	20
Area 2	:	:	:	:	:	:	:	:
Owners	786:	79	3	82	1	83	:	17
Tenants	970:	82	3	85	1	86	:	14
Area 3	:	:	:	:	:	:	:	:
Owners	421:	36	48	84	8	92	:	8
Tenants	836:	40	47	87	8	95	:	5
Area 4	:	:	:	:	:	:	:	:
Owners	888:	66	1	67	3	70	:	30
Tenants	1,137:	69	1	70	5	75	:	25
Area 5	:	:	:	:	:	:	:	:
Owners	603:	42	11	53	5	58	:	42
Tenants	1,026:	49	14	63	7	70	:	30
Area 6	:	:	:	:	:	:	:	:
Owners	348:	70	15	85	6	91	:	9
Tenants	964:	72	15	87	6	93	:	7
Area 7	:	:	:	:	:	:	:	:
Owners	827:	74	1	75	3	78	:	22
Tenants	745:	79	1	80	4	84	:	16
Area 8	:	:	:	:	:	:	:	:
Owners	757:	66	1	67	3	70	:	30
Tenants	764:	73	2	75	4	79	:	21

- 1/ Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; only those farms reporting cropland harvested are included in this table.
- 2/ The area of "plowable land" includes the combined areas of "cropland harvested", "crop failure", "cropland idle or fallow", and "plowable pasture".
- 3/ The area of "land planted to crops" includes the combined areas of "cropland harvested" and "crop failure".
- 4/ The area of "cropland" includes the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow".



Table 18.--Proportional utilization of plowable land on owner- and tenant-operated farms reporting cropland harvested, by size of farm groups, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Size of farm and tenure status of operator	Proportion of plowable land in: <sup>2/</sup>							
	Crop-		Land		Crop-			
	Number	land	Crop	planted	land	idle or	Crop-	Plowable
	of	har-	failure	in	idle or	land	pasture	
	farms	vested		crops	3/fallow	4/		
	Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All farm sizes								
Owner-operated farms	4,848	61	11	72	4	76		24
Tenant-operated farms	6,939	63	15	78	5	83		17
Under 50 acres								
Owner-operated farms	906	60	2	62	3	65		35
Tenant-operated farms	458	71	3	74	3	77		23
50-109 acres								
Owner-operated farms	1,344	67	6	73	3	76		24
Tenant-operated farms	1,460	71	7	78	4	82		18
110-209 acres								
Owner-operated farms	1,841	63	10	73	4	77		23
Tenant-operated farms	3,448	65	14	79	5	84		16
210-269 acres								
Owner-operated farms	353	59	13	72	4	76		24
Tenant-operated farms	783	60	18	78	6	84		16
270-369 acres								
Owner-operated farms	274	56	15	71	4	75		25
Tenant-operated farms	614	56	20	76	6	82		18
370 acres and over								
Owner-operated farms	130	51	18	69	5	74		26
Tenant-operated farms	176	53	20	73	5	78		22

- <sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; only those farms reporting cropland harvested are included in this table.
- <sup>2/</sup> The area of "plowable land" includes the combined areas of "cropland harvested", "crop failure", "cropland idle or fallow", and "plowable pasture".
- <sup>3/</sup> The area of "land planted to crops" includes the combined areas of "cropland harvested" and "crop failure".
- <sup>4/</sup> The area of "cropland" includes the combined areas of "cropland harvested", "crop failure" and "cropland idle or fallow".

Table 19.—Proportional utilization of plowable land on owner- and tenant-operated farms reporting crop land harvested, by number of years occupant had operated farm, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Length of occupancy and tenure status of operator	Proportion of plowable land in: <sup>2/</sup>							
	Number of farms	Crop- land har- vested	Crop failure	Land planted to crops <sup>3/</sup>	Crop- land idle or fallow <sup>4/</sup>	Crop- land	Crop- land	Plow- able pas- ture
	Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All year groups								
Owner-operated farms	4,848	61	11	72	4	76		24
Tenant-operated farms	6,939	63	15	78	5	83		17
Less than 2 years								
Owner-operated farms	443	63	9	72	4	76		24
Tenant-operated farms	2,220	64	13	77	5	82		18
2-4 years								
Owner-operated farms	541	61	11	72	4	76		24
Tenant-operated farms	1,646	64	15	79	5	84		16
5-9 years								
Owner-operated farms	653	63	10	73	4	77		23
Tenant-operated farms	1,379	60	18	78	6	84		16
10-14 years								
Owner-operated farms	567	61	12	73	3	76		24
Tenant-operated farms	765	61	17	78	5	83		17
15 years and over								
Owner-operated farms	2,579	60	11	71	4	75		25
Tenant-operated farms	840	62	16	78	5	83		17
Not reporting <sup>5/</sup>								
Owner-operated farms	65	69	4	73	4	77		23
Tenant-operated farms	89	69	4	73	5	78		22

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; only those farms reporting cropland harvested are included in this table.

<sup>2/</sup> The area of "plowable land" includes the combined areas of "cropland harvested", "crop failure", "cropland idle or fallow", and "plowable pasture".

<sup>3/</sup> The area of "land planted to crops" includes the combined areas of "cropland harvested" and "crop failure".

<sup>4/</sup> The area of "cropland" is the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow".

<sup>5/</sup> Farms not reporting the number of years the occupant had continuously operated the farm on which he resided in 1935.



To test the truth of this statement, the farms of each area are classified by size, and the ratio of plowable pasture to cropland is calculated for each cross-classification group. When this is done, the tabulation shows that owner operators had more acres of pasture land to each 100 acres of cropland than tenants in 52 out of 56 groups. In two of the four exceptions, the averages were calculated from groups of insufficient size to be considered significant. In a majority of the groups this difference is of such size as to be significant. In only two groups out of 56 do tenants have significantly more pasture relative to cropland than owners (table 20). As was noted in the preceding tables, the difference between the tenure classes is greater on small farms than on large farms; in half of the areas owners on small farms have twice as much pasture relative to cropland as do tenants.

The significant fact brought out in this analysis is that the difference between the tenure classes does not disappear when farms are classified by size, but the difference actually becomes greater. This means that when owner farms are compared with tenant farms of the same size, the tenants have significantly less plowable pasture in relation to cropland than do owners, and this difference is greater than when farms of all sizes are compared. In none of the areas studied can the difference in land-use practices between owners and tenants be explained by differences in size of farms.

It is altogether possible, however, that the relationships noted in the preceding analysis could be almost entirely due to differences in the stability of owner occupancy and tenant occupancy in each of the size groups. This can be tested by classifying the farms by the number of years the occupant had operated the farm on which he resided in 1935. When this is done, there appears to be little relationship between the stability of occupancy and the use of plowable land for pasture as indicated by the ratio between plowable pasture and cropland. The difference between the tenure classes, however, is not removed by the classification. In only 4 classes out of 56 do tenants have more plowable pasture relative to cropland than do owners (table 21), and in one of these the averages were calculated from an insignificant number of farms. Not only does the difference between tenure classes fail to disappear, but it actually increases when tenant farms are compared with owner farms showing the same stability of occupancy.

Although there appears to be some relationship between the length of the period of occupancy and land use, it is so erratic that it can hardly be considered significant (table 21). The inconsistency of this relationship within each tenure group is indicated by the fact that when the combined areas are considered, in 3 out of 8 areas, owners with less than 2 years of operation of the farm had more plowable pasture in relation to cropland than did owners with 15 years or more constant operation of the same farm. The relationship between stability of occupancy and land use is

Table 20.--Ratio of plowable pasture to cropland on owner- and tenant-operated farms reporting cropland harvested by size of farm groups, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

: Ratio of plowable pasture to cropland by size of farm groups									
Tenure status	Number:	All	Under						370
of operator	of	size	50	50-109	110-209	210-269	270-369		acres
by areas	farms	groups	acres	acres	acres	acres	acres		and over
	Number:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:		Percent
All areas	:	:	:	:	:	:	:	:	:
Owners	: 4,848:	32	: 55	: 32	: 30	: 32	: 33	:	35
Tenants	: 6,939:	20	: 31	: 22	: 19	: 20	: 22	:	28
Area 1	:	:	:	:	:	:	:	:	:
Owners	: 218:	27	: 48	: (70)	: 25	: 28	: 29	:	25*
Tenants	: 497:	25	: (45)	: 46	: 21	: 25	: 25	:	32
Area 2	:	:	:	:	:	:	:	:	:
Owners	: 786:	21	: 27	: 19	: 20	: 24	: 19	:	(39)
Tenants	: 970:	16	: 18	: 15	: 15	: 17	: 18	:	17
Area 3	:	:	:	:	:	:	:	:	:
Owners	: 421:	9	: 27	: 12	: 9	: 6	: 9	:	7
Tenants	: 836:	6	: 8	: 4	: 6	: 6	: 6	:	6
Area 4	:	:	:	:	:	:	:	:	:
Owners	: 888:	42	: 86	: 39	: 42	: 40	: 43	:	47
Tenants	: 1,137:	32	: 28	: 31	: 31	: 36	: 34	:	30
Area 5	:	:	:	:	:	:	:	:	:
Owners	: 603:	72	: 98	: 63	: 64	: 78	: 80	:	88
Tenants	: 1,026:	42	: 45	: 43	: 39	: 43	: 42	:	53
Area 6	:	:	:	:	:	:	:	:	:
Owners	: 348:	10	: 29	: 13	: 12	: 6*	: 7	:	(1)*
Tenants	: 964:	7	: 17	: 8	: 8	: 7	: 7	:	(4)
Area 7	:	:	:	:	:	:	:	:	:
Owners	: 827:	29	: 56	: 27	: 26	: 27	: (37)	:	(20)*
Tenants	: 745:	19	: 26	: 17	: 20	: 20	: (28)	:	(27)
Area 8	:	:	:	:	:	:	:	:	:
Owners	: 757:	43	: 57	: 43	: 40	: (30)	: (47)	:	(45)
Tenants	: 764:	27	: 36	: 29	: 26	: (24)	: (27)	:	(33)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; the ratio of plowable pasture to cropland is the number of acres of plowable pasture to each 100 acres of cropland. The area of cropland includes the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow". Only those farms reporting "cropland harvested" are included in this table.



Table 21.--Ratio of plowable pasture to cropland on owner- and tenant-operated farms reporting cropland harvested, by years of occupancy, in selected areas of the Corn Belt, 1934 <sup>1/</sup>

	:	:	Ratio of plowable pasture to cropland by length of occupancy groups													
Tenure status:	Number:	All	:	Less	:	:	:	15	:	Not						
of operator	of	year	:	than	:	2-4	:	5-9	:	10-14	:	years	:	report-		
by areas	farms	groups	:	2 years	:	years	:	years	:	years	:	and over	:	ing 2/		
	:	Number:	:	Percent:	:	Percent:	:	Percent:	:	Percent:	:	Percent:	:	Percent:		
All areas	:	:	:	:	:	:	:	:	:	:	:	:	:	:		
Owners	:	4,848:	:	32	:	32	:	31	:	30	:	31	:	33	:	30
Tenants	:	6,939:	:	20	:	22	:	20	:	20	:	20	:	20	:	28
Area 1	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	218:	:	27	:	34	:	31	:	21	:	23	:	28	:	10
Tenants	:	497:	:	25	:	29	:	24	:	22*	:	24*	:	28	:	--
Area 2	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	786:	:	21	:	(23)	:	20	:	17	:	23	:	22	:	(16)
Tenants	:	970:	:	16	:	17	:	14	:	13	:	20	:	19	:	10
Area 3	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	421:	:	9	:	10	:	6	:	9	:	6	:	9	:	--
Tenants	:	836:	:	6	:	5	:	5	:	6	:	6	:	5	:	(12)
Area 4	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	888:	:	42	:	31	:	37	:	39	:	43	:	45	:	37
Tenants	:	1,137:	:	32	:	27	:	29	:	35	:	40	:	35	:	(36)
Area 5	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	603:	:	72	:	67	:	61	:	69	:	89	:	73	:	91
Tenants	:	1,026:	:	42	:	38	:	40	:	48	:	46	:	50	:	57
Area 6	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	348:	:	10	:	3	:	9	:	10	:	14	:	10	:	(19)
Tenants	:	964:	:	7	:	6*	:	6	:	7	:	7	:	9	:	(9)
Area 7	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	827:	:	29	:	22	:	28	:	25	:	27	:	31	:	(27)
Tenants	:	745:	:	19	:	18	:	20	:	18	:	20	:	23	:	(29)*
Area 8	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Owners	:	757:	:	43	:	38	:	45	:	45	:	42	:	43	:	(51)
Tenants	:	764:	:	27	:	22	:	30	:	29	:	34	:	35	:	(26)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. The ratio of plowable pasture to cropland is the number of acres of plowable pasture to cropland. The area of cropland is the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow". Only those farms reporting "cropland harvested" are included in this table.

<sup>2/</sup> Farms not reporting number of years occupant had been in continuous operation of the farm on which he resided in 1935.

more important on tenant farms than on those of owner operators. In 6 of the 8 areas, tenants with 1 year or less of continuous operation had less plowable pasture in relation to cropland than did those who had operated the same farm for 15 years or longer. In none of the areas, however, is there a progressive increase in the importance of plowable pasture relative to the acreage of cropland. Although there appears to be a slight tendency for farmers of both tenure classes to utilize a more conservational system of farming the longer the period of continuous operation, this tendency is overshadowed by the difference between owners and tenants which is not explained by difference in stability of operation.

It might easily be that the difference between owner-operated and tenant-operated farms so far noted, when the farms are classified by size, are attributable to differences in stability, and that the differences between the tenure classes noted, when farms are classified by stability, could be due to differences in size. To determine whether this is the case, the farms falling in each size group can be classified by the number of years the occupant had operated the farm. For this purpose the two size groups in which the greatest number of farms are found have been selected.

When the farms of 50-109 acres in size are classified by the number of years the occupant had been in continuous operation of the farm, the difference between the tenure classes in the use of land does not disappear (table 22). Out of 30 class groups of farms of this size operated for comparable periods, in only 2 do tenants have more plowable pasture in relation to cropland than do owners. When farms of the same size and tenure status are compared, there appears to be little difference between farms of shorter occupancy and those of longer occupancy periods. In 3 out of 5 areas, owners with 15 years or more continuous operation had more plowable pasture per 100 acres of cropland than those owners who had been on their farms for less than 2 years, and in 4 out of 5 areas tenants with 15 years or more occupancy had more plowable pasture in relation to cropland than tenants with less than 2 years continuous operation.

Although these observations would seem to indicate that the longer a tenant or an owner is in continuous operation of a farm, the more conservational is his farming organization, this conclusion is not justified, since in two areas the most conservational farming is done by owners with less than 2 years of operating experience, in another by owners with 5 to 9 years operation, and in the other two areas the most conservational owners are those with only 2 to 4 years of continuous operation. Tenants with the most conservational farm organization are found in one area in the 5- to-9-year class, in one area in the 10-to-14-year class, and in only two areas are the most stable tenants farming most conservationally. Again, as noted previously, the difference between owners and tenants far outweighs differences due to stability of operation.



Table 22.--Ratio of plowable pasture to cropland on 50-109 acre owner- and tenant-operated farms reporting cropland harvested by length of occupancy in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		Ratio of plowable pasture to cropland by length of occupancy groups							
Tenure status of operator by areas	Number of farms	All year groups	Less than 2 years	2-4 years	5-9 years	10-14 years	15 years and over	Not report- ing 2/	
	Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
5 Areas com- bined									
Owners	3,321	32	34	53	33	34	30	45	
Tenants	4,469	22	21	22	20	25	23	24	
Area 2									
Owners	786	19	22	20	20	17	19	(26)	
Tenants	970	15	15	12	14	31*	(4)	(11)	
Area 5									
Owners	603	63	87	51	78	69	52	(15)	
Tenants	1,026	43	39	49	54	44	42	(39)	
Area 6									
Owners	348	13	2	(10)	19	(17)	14	(29)	
Tenants	964	8	6*	7	7	9	10	--	
Area 7									
Owners	827	27	21	28	22	30	27	(21)	
Tenants	745	17	15	17	14	22	21	(29)	
Area 8									
Owners	757	43	39	50	41	50	43	(49)	
Tenants	764	29	24	33	33	33	38	(21)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those farms of 50-109 acres in size which reported "cropland harvested" are included in this table. The ratio of plowable pasture to cropland is the number of acres of "plowable pasture" to each 100 acres of cropland. The area of "cropland" includes the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow". Only those farms reporting cropland harvested are included in this table. For each area only the two size groups having the largest number of farms were tabulated. In Areas 1 and 3 the size group 50-109 acres was not tabulated from the schedules.

<sup>2/</sup> Farms not reporting the number of years the occupant had been in continuous operation of the farm on which he resided in 1935.

These same tendencies are observed when farms of 110 - 209 acres in size are classified by the number of years the occupant had operated the farm. In only 7 out of 56 available comparisons do tenants have more plowable pasture in relation to cropland than owners, and in 5 of these the averages are not significant, because of the small number of farms from which they were calculated (table 23). In general, owner operators had from 25 to 50 percent more plowable pasture relative to the amount of cropland than did tenants. Although on both owner-operated farms and on tenant-operated farms in this size group, there is a tendency for land use to become more conservational as the length of continuous operation increases. This tendency is overshadowed, as noticed on farms of 50 - 109 acres in size, by the tendency for tenant farmers to follow a more exploitative system of land use than owners.

#### Land Utilization on Farms Reporting Corn Harvested for Grain

Excessive cropping of corn on steep slopes and rolling land without maintenance of a high organic-matter content and costly engineering devices, leads to continuous sheet erosion, gullies appear, and eventually the once fertile fields become valueless.

Not all of the farms of the Corn Belt include corn in their farm organization -- only about two-thirds of the owners and three-fourths of the tenants reported harvesting corn for grain. In the majority of size groups in every area except Douglas County, South Dakota, as large or a larger proportion of tenants than owners reported harvesting corn for grain. In the Douglas County area, the seeming exception is explainable in terms of the heavy incidence of drought which, as noted earlier, was greater on tenant farms than on owner farms. Thus, even though the farms in three size groups in this area show a higher proportion of owners than tenants as having harvested corn for grain, this does not mean that a smaller proportion of tenants than owners planted some of their land to corn. This same influence is present to a lesser degree in the other areas, and has the effect of decreasing the difference shown between the tenure classes. On farms of both tenure classes, corn is most often grown on the large farms and least often on farms of less than 50 acres in size (table 24).

Not only does a higher proportion of tenants than owners include corn for grain in the farm organization, but corn-producing tenants give it a greater place than do corn-producing owners. Corn-producing tenants harvested corn from 45 percent of their harvested cropland while owners harvested corn from only 40 percent of the harvested cropland (table 25). That this relationship is not due to difference in farm size is indicated by the fact that on farms of every size tenants gave greater emphasis to corn production than did owners on farms of the same size. In all areas except two, tenants used a greater percentage of their harvested cropland for corn than did owners. In each of these two areas this is a spurious relationship resulting from the relatively greater number of owner than of tenant farms which are under 50 acres in size. In both tenure classes, corn for grain had greater importance on farms of less



Table 23.—Ratio of plowable pasture to cropland on 110-209 acre owner- and tenant-operated farms reporting cropland harvested by length of occupancy in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		Ratio of plowable pasture to cropland by length of occupancy groups							
Tenure status:	Number:	All	Less				15	Not	
of operator :	of :	year :	than :	2-4 :	5-9 :	10-14 :	years :	report-	
by areas :	farms :	groups :	2 years :	years :	years :	years :	and over :	ing 2/	
	Number:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	
All areas									
Owners	4,848:	30	25	28	29	29	31	25	
Tenants	6,939:	19	20	18	18	19	20	25	
Area 1									
Owners	218:	25	(22)	20	(20)	20	30	(10)	
Tenants	497:	21	23*	18	22*	22*	26	--	
Area 2									
Owners	786:	20	12	17	18	24	21	15	
Tenants	970:	15	15	14	12	16	19	(5)	
Area 3									
Owners	421:	9	11	6	8	6	10	--	
Tenants	836:	6	5	5	5	7*	6	(12)	
Area 4									
Owners	888:	42	33	39	42	40	44	(38)	
Tenants	1,137:	31	25	29	35	37	32	32	
Area 5									
Owners	603:	64	66	52	66	66	65	(73)	
Tenants	1,026:	39	36	38	42	44	55	(37)	
Area 6									
Owners	348:	12	(5)	15	8	16	13	(17)	
Tenants	964:	8	6*	6	8	9	10	(9)	
Area 7									
Owners	827:	26	(16)	23	22	27	28	(4)	
Tenants	745:	20	20*	20	17	20	20	(29)*	
Area 8									
Owners	757:	40	41	40	34	30	43	--	
Tenants	764:	26	20	28	30	29	29	(30)	

- <sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those farms of 110-209 acres in size that reported "cropland harvested" are included in this table. The ratio of plowable pasture to cropland is the number of acres of "plowable pasture" to each 100 acres of cropland. The area of "cropland" includes the combined areas of "cropland harvested", "crop failure", and "cropland idle or fallow". Only those farms reporting cropland harvested are included in this table.
- <sup>2/</sup> Farms not reporting number of years occupant had been in continuous operation of farm on which he resided in 1935.

Table 24.— Proportion of owner- and tenant-operated farms reporting corn for grain by size in selected areas of the Corn Belt, 1934 <sup>1/</sup>

:Proportion of farms reporting corn for grain by size of								
Tenure status: farm groups								
of operator :	All :	Under :						370
by areas :	size :	50 :	50-109 :	110-209 :	210-269 :	270-369 :	acres	
:	groups :	acres :	acres :	acres :	acres :	acres :	and over	
:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	
All areas	:	:	:	:	:	:	:	:
Owners	: 66	: 32	: 78	: 78	: 76	: 78	: 65	
Tenants	: 75	: 36	: 80	: 79	: 77	: 80	: 76	
Area 1	:	:	:	:	:	:	:	:
Owners	: 78	: (19)*	: (40)	: 95	: 96	: 100*	: 100*	
Tenants	: 95	: (11)	: (72)	: 99	: 98	: 98	: 98	
Area 2	:	:	:	:	:	:	:	:
Owners	: 86	: 42	: 92	: 98	: 95	: 97	: (80)	
Tenants	: 94	: 45	: 95	: 99	: 100	: 97	: 100	
Area 3	:	:	:	:	:	:	:	:
Owners	: 24	: (3)	: 26*	: 28	: 38	: (33)	: (32)	
Tenants	: 35	: (13)	: 23	: 37	: 39	: 33	: 57	
Area 4	:	:	:	:	:	:	:	:
Owners	: 84	: 20	: 85	: 93	: 95	: 93	: 86	
Tenants	: 91	: 28	: 90	: 96	: 97	: 98	: 91	
Area 5	:	:	:	:	:	:	:	:
Owners	: 18	: (3)	: 18	: 23	: 29	: (21)	: (11)	
Tenants	: 27	: (4)	: 24	: 30	: 39	: 39	: 36	
Area 6	:	:	:	:	:	:	:	:
Owners	: 79	: 27*	: 98	: 100	: 100	: 100*	: (100)	
Tenants	: 96	: (24)	: 100	: 100	: 100	: 99	: (100)	
Area 7	:	:	:	:	:	:	:	:
Owners	: 72	: 33	: 94	: 98	: 100*	: (100)	: (100)	
Tenants	: 91	: 54	: 97	: 98	: 93	: (100)	: (100)	
Area 8	:	:	:	:	:	:	:	:
Owners	: 78	: 55	: 94	: 97	: (100)	: (100)	: (100)	
Tenants	: 92	: 64	: 99	: 99	: 100	: (100)	: (100)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



Table 25.—Proportion of harvested cropland in corn harvested for grain on owner- and tenant-operated farms reporting corn harvested for grain by size of farm in selected areas of the Corn Belt, 1934 <sup>1/</sup>

: Proportion of harvested cropland in corn harvested for grain by size of farm groups									
Tenure status:	Number:	All	Under						370
of operator	of	size	50	50-109	110-209	210-269	270-369	acres	
by areas	farms	groups	acres	acres	acres	acres	acres	and over	
	Number:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	
All areas									
Owners	5,593	40	54	40	39	37	41	41	
Tenants	5,514	45	60	44	45	44	47	49	
Area 1									
Owners	202	55	(100)	(70)	61	53	56	50	
Tenants	486	62	(100)	(75)	63	60	61	59	
Area 2									
Owners	709	31	55*	35	30	29	30	(28)	
Tenants	922	33	51	39	33	30	31	31	
Area 3									
Owners	137	57*	(78)	65	55	56*	(58)*	(53)	
Tenants	373	56	(100)	68	57	54	51	58	
Area 4									
Owners	782	36	64*	41	38	34	33	30	
Tenants	1,060	41	57	46	42	39	39	41	
Area 5									
Owners	119	24	(42)	32	29	23	(17)	(6)	
Tenants	298	29	(80)	40	31	24	24	30	
Area 6									
Owners	322	56	78	58	54	56	55	(59)	
Tenants	953	57	(87)	59	56	56	59	(64)	
Area 7									
Owners	666	31	41	32	29	32*	(23)	(29)	
Tenants	693	33	52	34	31	31	(27)	(29)	
Area 8									
Owners	656	46*	58	48	42	(36)	(43)*	(43)	
Tenants	729	45	61	49	43	41	(37)	(49)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those farms that reported corn harvested for grain are included in this table.

than 50 acres in size than on farms of any other size. With the exception of this size group, there appears to be but little relationship between farm size and the proportion of harvested cropland that was in corn. Of greater significance is the fact that in 42 out of 48 groups, tenants placed greater emphasis on corn than did owners.

The difference between the tenure classes in regard to the importance of corn relative to the other crops, making up the cropland harvested total, is not explained by differences in the length of continuous operation by the incumbent occupant. Actually, a classification of the farms of these areas by the numbers of years the occupant had operated the farm has little effect upon the degree of the difference between owner and tenant-operated farms in this report (table 26). There is apparently little relationship between length of continuous operation by operators of either tenure class and the importance of corn in the farm organization, although in a few of the areas there appears to be a tendency to place less reliance on corn in the longer term-of-occupancy groups. On the other hand, this tendency is almost nonexistent in other areas, and in one area is completely reversed when tenant farms are considered.

These same relationships become more evident when the farms are classified by both size and number of years of continuous operation by the occupant. On farms of 50 - 109 acres in size, the difference between owners and tenants does not disappear when the farms are classified by stability of operation (table 27). Moreover, there is but meager evidence that the number of years the occupant had operated the farm has any influence upon the degree of reliance on corn. In only 8 of 25 groups do owners have a higher proportion of harvested land in corn than do tenants, and 2 of these seeming exceptions were calculated from samples so small that the averages cannot be considered significant.

The relationship noted for farms of 50 - 109 acres in size is also true of farms 110 - 209 acres in size, but to a lesser degree. In 14 out of 40 groups the owner figures show a greater emphasis on corn production (table 28), 6 of these exceptions, however, were calculated from an insignificant number of farms. Apparently, on the owner-operated farms of this group, there is a definite tendency for the proportion of harvested cropland in corn to decrease with increased stability of operation. On tenant farms, there is little relationship between length of operation by occupant and relative amount of harvested cropland in corn.

#### Summarization and Conclusions Regarding Land Utilization in Relation to Tenure Status of Operators

The data presented in this section of the report definitely indicate that there is a significant difference between the land use on tenant farms and on owner-operated farms in the Corn Belt. Not only is a greater proportion of tenants than owners engaged in crop production, but tenants who have crops, use a greater proportion of land for them



Table 26.—Proportion of harvested cropland in corn harvested for grain on owner- and tenant-operated farms reporting corn harvested for grain by length of occupancy in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		:Proportion of harvested cropland in corn harvested for grain by length of occupancy groups							
Tenure status:	Number:	All	: Less	:	:	:	:	15	: Not
of operator	of	year	: than	: 2-4	: 5-9	: 10-14	: years	: report-	
by areas	farms	groups	:2 years	: years	: years	: years	: and over	: ing 2/	
		Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All Areas combined									
Owners	3,593	40	41	41	39	40	39	39	
Tenants	5,514	45	46	45	45	45	46	42	
Area 1									
Owners	202	55	(66)	69	60	48	55	(42)	
Tenants	486	62	67	63	60	57	61	—	
Area 2									
Owners	709	31	32	33	31	32	30	(33)	
Tenants	922	33	36	31	32	30	32	(37)	
Area 3									
Owners	137	57	(63)	(63)	(59)	54	56	—	
Tenants	373	56	62	59	53	57	52	(53)	
Area 4									
Owners	782	36	39	37	35	37	36	(35)	
Tenants	1,060	41	44	41	39	39	39	41	
Area 5									
Owners	119	24	(27)	(21)	27	(31)	23	(45)	
Tenants	298	29	31	30	27	18	36	(22)	
Area 6									
Owners	322	56	61	60	53	52	56	(50)	
Tenants	953	57	60	58	56	56	55	(54)	
Area 7									
Owners	666	31	30	35	33	31	30	(33)	
Tenants	693	33	36	32	31	29	30	(35)	
Area 8									
Owners	656	46	46	46	46	47	45	(57)	
Tenants	729	45	47	45	46	40	45	(48)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those farms that reported corn harvested for grain are included in this table.

<sup>2/</sup> Farms not reporting the number of years occupant had been in continuous operation of farm on which he resided in 1935.

Table 27.--Proportion of harvested cropland in corn harvested for grain on 50-109 acre owner- and tenant-operated farms reporting corn harvested for grain by length of occupancy in selected areas of the Corn Belt, 1934 <sup>1/</sup>

		Proportion of harvested cropland in corn harvested for grain by length of occupancy groups								
Tenure status:	Number:	All	Less					15	Not	
of operator:	of	year	than	2-4	5-9	10-14	years	years	report-	
by areas	farms	groups	2 years	years	years	years	and over	ing 2/		
	Number:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	
5 Areas com-										
bined										
Owners	951	40	43	41	40	38	39	52		
Tenants	1,040	43	45	44	42	36	43	40		
Area 2										
Owners	204	35	42	36	35	34*	34	(52)		
Tenants	178	39	43	39	36	30	(34)	(36)		
Area 5										
Owners	29	32	(22)	(32)	(41)*	(28)*	35	--		
Tenants	48	40	36	44	(36)	(27)	(79)	--		
Area 6										
Owners	81	58	62	(57)	48	(52)	59*	(69)		
Tenants	138	59	63	60	60	56	51	--		
Area 7										
Owners	360	32	30	36*	33	33*	32	(33)		
Tenants	354	34	36	33	34	30	33	(38)		
Area 8										
Owners	277	48	47	49	50*	48*	47	(48)		
Tenants	322	49	50	49	47	42	52	(47)		

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those farms of 50 - 109 acres in size that reported corn harvested for grain are included. For each area only the two size groups having the largest number of farms were tabulated. In Areas 1 and 3 the size group 50 - 109 acres was not tabulated from the schedules.

<sup>2/</sup> Farms not reporting the number of years the occupant had operated the farm on which he was residing in 1935.



Table 28.--Proportion of harvested cropland in corn harvested for grain on 110-209 acre owner- and tenant-operated farms reporting corn harvested for grain by length of occupancy in selected areas of the Corn Belt, 1934 <sup>1/</sup>

: Proportion of harvested cropland in corn harvested for grain by length of occupancy groups									
Tenure status:	Number:								
of operator :	of :	All :	Less :	2-4 :	5-9 :	10-14 :	15 :	Not :	
by areas :	farms :	year :	than :	years :	years :	years :	years :	report- :	
:	:	groups:	2 years:	years :	years :	years :	and over:	ing 2/ :	
	:Number:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	Percent:	
All areas combined	:	:	:	:	:	:	:	:	:
Owners	: 1,477:	39 :	43 :	40 :	39 :	38 :	38 :	36 :	
Tenants	: 2,797:	45 :	45 :	45 :	44 :	44 :	44 :	44 :	
Area 1	:	:	:	:	:	:	:	:	:
Owners	: 73:	61 :	(39)*:	(81)*:	(59) :	49 :	62* :	(42) :	
Tenants	: 219:	63 :	37 :	63 :	63 :	57 :	54 :	-- :	
Area 2	:	:	:	:	:	:	:	:	:
Owners	: 353:	30 :	28 :	31 :	29 :	31 :	29 :	(31) :	
Tenants	: 533:	33 :	35 :	32 :	32 :	31 :	33 :	(39) :	
Area 3	:	:	:	:	:	:	:	:	:
Owners	: 68:	55 :	(30)*:	(54) :	(59)*:	(45) :	56 :	-- :	
Tenants	: 219:	57 :	59 :	57 :	55 :	54 :	56 :	(53) :	
Area 4	:	:	:	:	:	:	:	:	:
Owners	: 460:	38 :	43 :	39 :	37 :	37 :	37 :	(40) :	
Tenants	: 628:	42 :	44 :	44 :	40 :	40 :	39 :	43 :	
Area 5	:	:	:	:	:	:	:	:	:
Owners	: 56:	29 :	(35)*:	(18) :	32* :	(40)*:	28 :	-- :	
Tenants	: 149:	31 :	33 :	27 :	30 :	(35) :	(36) :	(32) :	
Area 6	:	:	:	:	:	:	:	:	:
Owners	: 156:	54 :	(56) :	59* :	53 :	52 :	55* :	(50) :	
Tenants	: 556:	56 :	53 :	57 :	53 :	56 :	54 :	(53) :	
Area 7	:	:	:	:	:	:	:	:	:
Owners	: 156:	29 :	(24) :	34* :	30 :	25 :	30* :	(30) :	
Tenants	: 242:	31 :	34 :	32 :	30 :	28 :	29 :	(34) :	
Area 8	:	:	:	:	:	:	:	:	:
Owners	: 155:	42 :	41 :	43 :	43 :	42* :	42* :	-- :	
Tenants	: 251:	43 :	44 :	44 :	45 :	36 :	41 :	(49) :	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. Only those owner and tenant farms of 110 to 209 acres in size that reported corn harvested for grain are included in this table.

<sup>2/</sup> Farms not reporting the number of years occupant had operated farm on which he resided in 1935.

than do owners who have crops. Tenants use less of their land for pasture than do owners, and place more of their plowable land in crops and less in pasture than farm operators who own their own land. Farm tenants in the Corn Belt are following a system of land use that is essentially more exploitative than that of owner-operators.

The difference between farms operated by the two tenure classes is not completely or even to any large degree explained by differences in size of farm operated by the two classes. To only a slightly greater extent are the differences explained by differences in the stability of operation of the two classes.

### RELATIONSHIP BETWEEN TENURE STATUS AND LIVESTOCK ENTERPRISES

The comparison of farms in amount and kind of livestock kept affords one way of arriving at an appreciation of the differences between farmers in the way they use land. The purpose of the following analysis is to ascertain whether significant differences in livestock systems exist as between owner and tenant farms, to ascertain for what type of livestock the differences occur, and to learn whether tenants differ from owners in the possession of roughage-consuming livestock.

#### Cattle and Calves

In every area studied, owners had relatively more cattle and calves than tenants. Owner-operators had one-third more cattle and calves to each 100 acres of farm land than did tenants (table 29). This relationship does not appear to be due entirely to differences in the size of owner as compared with tenant farms. With the exception of farms smaller than 50 acres, there appears to be little relationship between farm size and intensity of cattle production on farms of each tenure group. Intensive cattle production on these small farms is due almost entirely to the presence among them of a disproportionate number of farms of the feed-lot type. In some areas the intensity of cattle production is less on farms of 370 acres or over in size, while in other areas there is little change.

Of much greater significance than the relationship between farm size and intensity of cattle production is the relationship between tenure status and livestock production. In 43 subgroups out of 48, owner-operators have more cattle and calves for each 100 acres of farm land than do tenants. It is significant that three of the exceptions are found in the "under 50 acre" size group and two others were calculated from an insufficient number of farms. That is to say, on farms of 50 acres or larger, owners consistently have more cattle than tenants (table 29).

It has often been assumed that since livestock production is a long-time enterprise, the difference between owners and tenants in regard to relative numbers of cattle is due almost entirely to the



Table 29.--Number of cattle and calves per 100 acres of farm land by tenure status of operator and size of farm, in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Tenure status of operator by areas	Number of cattle and calves per 100 acres of land by size of farm groups								
	Number:	All	Under	50	50-109	110-209	210-269	270-369	370
	of	size	50	50-109	110-209	210-269	270-369	370	acres
	farms	groups	acres	acres	acres	acres	acres	acres	and over
	Number	Number	Number	Number	Number	Number	Number	Number	Number
All areas									
Owners	5,427	12	17	12	12	12	12	12	11
Tenants	7,352	9	13	9	9	9	9	9	8
Area 1									
Owners	258	8	20	10	7	7	6		9
Tenants	514	6	52*	5	6	7	5		6
Area 2									
Owners	822	16	21	16	16	15	15		(11)
Tenants	978	14	19	14	14	14	15		10
Area 3									
Owners	567	8	26	14	7	8	7		7
Tenants	1,074	6	23*	7	5	5	5		6
Area 4									
Owners	926	16	29	15	16	17	17		15
Tenants	1,161	13	22	12	15	13	15		12
Area 5									
Owners	677	12	15	12	11	12	13		13
Tenants	1,086	9	15	10	9	9	10		9
Area 6									
Owners	410	7	25	7	7	7	5		(7)
Tenants	988	6	27*	6	6	5	5		(5)
Area 7									
Owners	928	12	14	12	12	9	(16)		(6)
Tenants	759	9	12	9	9	7	(10)		(8)*
Area 8									
Owners	839	11	13	9	10	(8)	(17)		(18)
Tenants	792	8	10	8	8	9*	(5)		(9)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

difference in the length of time the members of each group occupy the farms. Such is not the case in the areas studied. Although there appears to be comparatively little consistent relationship between number of cattle and length of continuous occupancy, the farmers who had been on their farms for less than 2 years had fewer livestock in reference to their farm acreage than farmers with longer periods of occupancy. When farms of 50 to 109 acres in size are classified by the number of years the occupant had been in continuous operation of the farm, there appears to be no consistent tendency in the number of cattle except that both owners and tenants, with an occupancy of less than 2 years, have fewer livestock than those who have been on their farms for longer periods. In only 3 out of 30 groups, tenant operators have more livestock than owners (table 30).

These same relationships are apparent when farms of 110 to 209 acres in size are classified by years operated. After farmers have completed the second year of their operation, there appears to be little difference between them in the number of cattle and calves kept, except that with considerable consistency owners have more cattle than tenants (table 31).

It appears from this analysis that tenure status is more important than either farm size or length of continuous operation of the farm in determining the number of cattle and calves kept in relation to the acreage of the farm.

#### Cows Kept for Milking

There is little difference between owner and tenant operators in relation to the number of milk cows kept, although in some of the areas studied there appears to be significant difference (table 32). This relationship is spurious, since what little difference there is between the tenure classes virtually disappears when the farms are classified by size.

Although there is little difference in the actual number of milk cows kept, owners reported a significantly greater milk production than tenants. That is to say, owners, with practically the same number of cows, produced considerably more milk than tenants (table 33). In every area studied owners reported a higher production of milk than tenants. In part, this is a result of the tendency for milk production to be greater on small farms than on large farms. However, when the farms are classified by size, the difference between the tenure classes does not disappear. In every size of farm group when all areas are combined, owners have greater milk production than tenants. This is a result probably of better cows on owner farms and the greater care given to the dairy enterprise by owner operators.



Table 30.—Number of cattle and calves per 100 acres of farm land on 50-109 acre farms by tenure status and length of occupancy of operator in selected areas of the Corn Belt, 1935 <sup>1/</sup>

	:	:	: Number of cattle and calves per 100 acres of land by													
Tenure status	:	Number	:	length of occupancy group												
of operator	:	of	:	All	:	Less	:	:	:	15	:	Not				
by areas	:	farms	:	years	:	than	:	2-4	:	5-9	:	10-14	:	years	:	report-
	:		:	groups	:	2 years	:	years	:	years	:	years	:	and over	:	ing 2/
	:	Number	:	Number	:	Number	:	Number	:	Number	:	Number	:	Number	:	Number
All areas	:		:		:		:		:		:		:		:	
Owners	:	1,146	:	12	:	9	:	12	:	12	:	13	:	12	:	10
Tenants	:	1,220	:	9	:	8	:	9	:	11	:	11	:	10	:	11
	:		:		:		:		:		:		:		:	
Area 2	:		:		:		:		:		:		:		:	
Owners	:	222	:	16	:	13	:	14	:	15	:	17	:	16	:	(14)
Tenants	:	187	:	14	:	12	:	14	:	16*	:	16	:	(14)	:	(13)
	:		:		:		:		:		:		:		:	
Area 5	:		:		:		:		:		:		:		:	
Owners	:	164	:	12	:	11	:	15	:	11	:	14	:	12	:	(7)
Tenants	:	204	:	10	:	9	:	10	:	14*	:	9	:	12	:	(2)
	:		:		:		:		:		:		:		:	
Area 6	:		:		:		:		:		:		:		:	
Owners	:	83	:	7	:	5	:	(6)	:	8	:	(8)	:	8	:	(7)
Tenants	:	138	:	6	:	5	:	5	:	7	:	7	:	7	:	--
	:		:		:		:		:		:		:		:	
Area 7	:		:		:		:		:		:		:		:	
Owners	:	382	:	12	:	8	:	11	:	12	:	12	:	12	:	(10)
Tenants	:	366	:	9	:	8	:	9	:	10	:	12	:	11	:	(7)
	:		:		:		:		:		:		:		:	
Area 8	:		:		:		:		:		:		:		:	
Owners	:	295	:	9	:	8	:	11	:	11	:	9	:	9	:	(9)
Tenants	:	325	:	8	:	7	:	8	:	9	:	9	:	9	:	(13)*
	:		:		:		:		:		:		:		:	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture. For each area only the two size groups having the largest number of farms were tabulated. In areas 1 and 3, the size group 50 to 109 acres was not tabulated from the Schedules.

<sup>2/</sup> Farms not reporting number of years occupant had operated farm on which he resided in 1935.

Table 31.--Number of cattle and calves per 100 acres of farm land on 110-209 acre farms by tenure status and length of occupancy of operator in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Tenure status of operator by areas	Number of cattle and calves per 100 acres of land by length of occupancy groups							
	Number of farms	All year groups	Less than 2 years	2-4 years	5-9 years	10-14 years	15 years and over	Not report- ing <sup>2/</sup>
	Number	Number	Number	Number	Number	Number	Number	Number
All areas								
Owners	1,890	12	10	12	12	12	12	15
Tenants	3,559	9	9	9	9	9	10	9
Area 1								
Owners	77	7	(4)	6	(7)	10	6	(3)
Tenants	221	6	7	6	6	7	5	--
Area 2								
Owners	361	16	15	15	15	16	17	19
Tenants	537	14	13	15	14	15	15	(11)
Area 3								
Owners	242	7	7	6	8	7	7	--
Tenants	590	5	5	5	5	6	6	(8)
Area 4								
Owners	496	16	12	14	16	15	16	(20)
Tenants	656	13	12	12	14	14	15	10
Area 5								
Owners	239	11	10	11	10	11	11	(10)
Tenants	497	9	9	9	9	11	11	(9)
Area 6								
Owners	156	7	(4)	6	7	7	7	(4)
Tenants	558	6	5	6	6	6	6	(5)
Area 7								
Owners	160	12	(10)	13	11	13	12	(3)
Tenants	247	9	8	9	9	10	10	(9)
Area 8								
Owners	159	10	7	10	7	10	10	--
Tenants	253	8	7	8	8	8	8	(8)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedule of the 1935 Census of Agriculture.

<sup>2/</sup> Farms not reporting number of years occupant had been in continuous operation of farm on which he resided in 1935.



Table 32.--Number of cows milked per 100 acres of farm land by tenure status of operator and size of farm in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Tenure status of operator by areas		Number of cows milked per 100 acres of land by size of farm groups							
		Number of farms	All size groups	Under 50 acres	50-109 acres	110-209 acres	210-269 acres	270-369 acres	370 acres and over
		Number	Number	Number	Number	Number	Number	Number	Number
All areas									
Owners		5,427	5	11	6	5	3	3	2
Tenants		7,352	4	11	5	4	3	3	2
Area 1									
Owners		258	3	13	5	4	4	3	2
Tenants		514	3	21	2	3	3	2	2
Area 2									
Owners		822	7	11	8	7	5	5	(4)
Tenants		978	6	13	8	7	6	5	3
Area 3									
Owners		567	3	12	5	4	3	2	2
Tenants		1,074	2	18	3	3	2	2	1
Area 4									
Owners		926	4	13	6	4	3	3	2
Tenants		1,161	4	12	5	4	3	3	2
Area 5									
Owners		677	3	10	6	4	3	2	1
Tenants		1,086	4	11	5	4	3	3	2
Area 6									
Owners		410	4	14	5	4	3	2	(1)
Tenants		988	3	19	4	3	3	2	(3)
Area 7									
Owners		928	6	10	7	5	3	(2)	(1)
Tenants		759	5	9	6	5	3	(4)	(1)
Area 8									
Owners		839	5	10	6	4	(3)	(2)	(2)
Tenants		792	4	8	6	4	3	(3)	(1)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.

Table 33.--Pounds of milk produced per 100 acres of farm land on owner- and tenant-operated farms by size in selected areas of the Corn Belt, 1934 <sup>1/</sup>

Tenure status of operator by areas	Pounds of milk produced per 100 acres of land by size of farm groups								
	Number:								
	of	All	Under						370
	farms	size	50	50-109	110-209	210-269	270-369	acres	
		groups	acres	acres	acres	acres	acres	and over	
	Number:	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
All areas									
Owners	5,427	1,725	4,222	2,527	1,769	1,324	962	656	
Tenants	7,352	1,361	3,923	2,025	1,512	1,202	921	652	
Area 1									
Owners	258	746	3,831	1,221	759	959	746	505	
Tenants	514	592	5,386	372	678	625	538	510	
Area 2									
Owners	822	2,593	4,373	3,042	2,726	1,852	1,884	(1,760)	
Tenants	978	2,332	4,759	2,761	2,451	2,299	1,712	1,293	
Area 3									
Owners	567	1,791	6,677	2,889	1,792	1,906	1,083	717	
Tenants	1,074	1,253	10,390	1,414	1,363	1,159	1,062	569	
Area 4									
Owners	926	1,328	5,083	2,130	1,416	1,059	1,005	651	
Tenants	1,161	1,186	3,573	1,572	1,331	1,044	873	600	
Area 5									
Owners	677	1,109	3,626	1,761	1,234	919	605	402	
Tenants	1,086	1,073	3,488	1,446	1,177	1,019	753	568	
Area 6									
Owners	410	1,562	6,184	1,951	1,555	1,178	746	(239)	
Tenants	988	1,285	7,949	1,540	1,426	1,069	953	(1,111)	
Area 7									
Owners	928	2,670	4,199	2,951	2,516	1,333	(1,042)	(450)	
Tenants	759	2,182	3,324	2,578	2,106	1,276	(1,292)	(751)	
Area 8									
Owners	839	2,031	3,552	2,236	1,571	(1,358)	(535)	(1,127)	
Tenants	792	1,654	2,835	2,051	1,454	1,210	(1,344)	(351)	

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



### Hogs on Owner and Tenant Farms

With greater corn acreage it would be expected that tenant farmers would have a more highly developed hog enterprise than owners; but because the great majority of Corn Belt leases are of the crop-share type, tenant farmers actually have less corn available for feeding hogs than do owners. This is reflected in the fact that owner farmers had almost half again more hogs to each 100 acres of farm land than did tenants (table 34).

### Roughage-Consuming Livestock

Of considerable importance from the standpoint of soil conservation is the number of roughage-consuming livestock in relation to farm acreage. These livestock (including cattle, cows, and horses) are those that make use of pastures and hay, both of which are soil-conserving land uses in the Corn Belt. Moreover, this combination of livestock and land use provides both organic matter and fertility for the farm. When crops are fed to this type of livestock on the farm much less of the soil fertility is lost than when the crops are sold off the farm.

Owner farmers in the areas studied had about one-fourth more roughage-consuming livestock in relation to farm acreage than did tenants (table 35). This is true for each of the individual areas, and is consistently significant when the farms are classified by size. In only 6 out of 48 size groups do tenants have more roughage-consuming animal-units to each 100 acres of farm land than do owners, and of those the 4 that are significant are in the "less than 50 acres" group. The difference between the tenure-groups becomes relatively larger as farm size increases, although the actual number of animal-units per 100 acres decreases with increase in farm size.

### CONCLUSIONS AND IMPLICATIONS

Tenant-operated farms in the areas studied are significantly larger than owner-operated farms, a difference associated with the relatively large number of owner-operated farms of 110 acres or less in size and with the marked prevalence of 110 to 209 acres of tenant-farms. The average size of the owner farms studied was found to be 122 acres with more than 50 percent of the farms smaller than 110 acres, while tenant farms averaged 158 acres with nearly half of them between 110 and 209 acres in size.

When the differences in farm size are accounted for, there is little difference between owners and tenants in relation to numbers of people on the land. Differences in the man-land ratio on farms in the Corn Belt appear to be almost entirely related to differences in size of farm. Although the average number of people to each 100 acres of farm land on owner farms was 3.2, or 0.4 more than the 2.8 persons on tenant farms, this difference completely disappears when the farms are

Table 34.—Number of swine per 100 acres of farm land on owner- and tenant-operated farms by size in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Tenure status of operator by areas	Number of swine per 100 acres of land by size of farm groups								
	Number:								
	of	All	Under						370
	farms	size	50	50-109	110-209	210-269	270-369	acres	and over
	Number	Number	Number	Number	Number	Number	Number	Number	Number
All areas									
Owners	5,427:	16	23	18	17	16	14		11
Tenants	7,352:	11	22	15	11	10	8		7
Area 1									
Owners	258:	3	7	4	3	2	2		4
Tenants	514:	2	10	2	2	2	2		1
Area 2									
Owners	822:	17	16	19	17	20	12		(10)
Tenants	978:	15	35	17	15	15	12		11
Area 3									
Owners	567:	11	38	13	11	10	12		10
Tenants	1,074:	6	21	5	6	6	7		6
Area 4									
Owners	926:	25	56	21	25	26	25		19
Tenants	1,161:	18	32	18	18	19	18		13
Area 5									
Owners	677:	10	16	10	10	10	10		11
Tenants	1,086:	7	18	7	7	7	8		7
Area 6									
Owners	410:	7	9	9	7	7	7		(5)
Tenants	988:	6	8	5	6	5	5		(7)
Area 7									
Owners	928:	19	18	19	18	14	(20)		(16)
Tenants	759:	15	16	17	14	13	(13)		(20)
Area 8									
Owners	839:	25	26	24	25	(24)	(42)		(24)
Tenants	792:	22	22	22	22	24	(15)		(16)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture.



Table 35.—Number of roughage-consuming animal units per 100 acres of farm land on owner- and tenant-operated farms by size in selected areas of the Corn Belt, 1935 <sup>1/</sup>

Tenure status of operator by areas	Roughage-consuming animal units per 100 acres of land by size of farm groups							
	Number of farms	All size groups	Under 50 acres	50-109 acres	110-209 acres	210-269 acres	270-369 acres	370 acres and over
	Number	Number	Number	Number	Number	Number	Number	Number
All areas								
Owners	5,427	15	20	16	15	15	14	13
Tenants	7,352	12	20	13	12	11	11	9
Area 1								
Owners	258	10	22	12	9	9	8	11
Tenants	514	8	62*	7	8	9	7	7
Area 2								
Owners	822	19	26	19	19	18	17	(14)
Tenants	978	17	25	18	17	16	15	11
Area 3								
Owners	567	11	30	18	10	11	9	9
Tenants	1,074	8	33*	10	8	8	8	8
Area 4								
Owners	926	19	32	20	19	20	20	17
Tenants	1,161	16	28	15	16	16	18	13
Area 5								
Owners	677	14	17	16	14	14	15	15
Tenants	1,086	12	20*	13	12	11	12	10
Area 6								
Owners	410	10	29	11	10	10	8	(9)
Tenants	988	9	32*	9	9	8	8	(7)
Area 7								
Owners	928	15	17	15	15	11	(18)	(7)
Tenants	759	12	16	12	11	9	(13)	(10)*
Area 8								
Owners	839	14	17	13	12	(10)	(18)	(19)
Tenants	792	11	14	11	10	11*	(8)	(11)

<sup>1/</sup> Special tabulation of data from the Farm and Ranch Schedules of the 1935 Census of Agriculture; roughage-consuming animal units were calculated as follows: 1 cow, calf, horse, mule, colt equals one roughage-consuming animal unit.

classified by size. This indicates that insofar as population pressure is concerned there should be no difference between the tenure classes in their desire or their necessity to use labor-intensive enterprises in their farm organization.

In spite of the fact that tenant farms are larger than owner farms and that there is no difference in the man-land ratio on tenant farms and on owner farms, the system of land use on tenant-operated farms is much more conducive to soil erosion than that observed on owner-operated farms. There is relatively less pasture land on tenant-operated farms than on owner farms, although about the same proportion of owners as of tenants reported having some pasture. On farms of all sizes and in every area studied, tenant farmers were using a larger proportion of their farm land for crops than were owners.

The fact that a greater number of tenants than owner operators has land in crops may follow in consequence of differences in the suitability of land for crops. However, when only those tenant and owner farms that reported cropland are considered, tenant farms of every size still show a greater proportion of plowable land in crops and less in pasture than do owner-operated farms.

When tenant farms that reported cropland harvested are compared with a similar group of owner-operated farms, the tabulations show that tenants follow a more exploitative system in using their plowable land than do owners. These differences between the members of the two tenure classes cannot be explained by differences in size of farm or in the number of years the occupant had continuously operated the farm on which he resided in 1935.

Tenant-operated farms that reported corn harvested for grain had a greater proportion of harvested cropland in corn than did a similar group of owners. This difference was not explained by a difference in size of farm nor in stability of occupancy. On farms similar in size in each area tenants placed greater emphasis on corn production than did owner operators.

Owner farmers in these areas owned more roughage-consuming livestock than did tenant farmers. Owners had more cattle and calves in relation to farm acreage than tenants. There are more swine on owner-operated farms than on tenant-operated farms. Differences in the relative amount of livestock kept correspond closely with the evidence that crop data afford to the effect that the farming of tenants is more exhaustive to farm land than that of owner-operators. It is self-evident that more pasture and more roughage-consuming livestock are concomitant factors in farm organization. The relatively few livestock kept on tenant-operated farms is a consequence of the fact that a share of the corn is often paid to landlords in the form of rent, and as such commonly leaves the farm, rather than an indication of conservational farming on the part of tenants.



Although population pressure and farm size considerations indicate that tenant farmers should farm less intensively than owners, or at least that there should be little difference between the two tenure classes, every table examined indicates that the farm organization on tenant farms in the areas studied is more exploitative than that on owner-operated farms. Moreover, it has been a repeated and consistent observation that this relationship is not explained to any great extent by differences in size of farm or in length of continuous operation of the farm. The size of the differences noted and the consistency with which they are observed indicates that the results of this analysis are applicable to a much larger region than that actually covered by the areas studied.

There is an underlying difference between tenant farmers and owner farmers in the Corn Belt which causes tenants to follow a more exploitative system of farming than that of owners.

A suggestion of this underlying cause is found in the significant although indistinct and inconsistent relationship between the number of years the occupant had continuously operated the farm on which he resided in 1935 and the system of farming followed. Although, as has been pointed out, this relationship does not explain the difference in the type of farming followed by owners and by tenants, it does offer a clue to an underlying cause.

Most of the leases of the Corn Belt are 1 year crop-share leases which can but discourage conservation farming and livestock production. The majority of Corn Belt tenants do not know from one year to the next whether they can remain on the farm they occupy for a longer period than the immediate year. Livestock production and proper crop rotations require long-time planning and a long-time outlook which cannot exist when the probability of moving is as great as under present leasing methods. The length of time a farmer expects to stay on the same farm influences every decision he makes as to land use or livestock enterprises. A tenant farmer who has no assurance that he can stay on the farm for some time to come cannot be expected to make decisions looking forward to the maintenance of the farm resources for future use. The owner operator, on the other hand, feels a more permanent interest in keeping up the soil fertility and the permanent improvements of his farm.

The lack of any close relationship between the number of years the tenant occupant had operated the farm on which he resided in 1935, and the various criteria of farm organization indicate clearly that it is not to any great extent the frequent moves of tenant farmers that cause them to follow an exploitative system of farming. In this connection, foresight is more important than hindsight. It makes little difference in the tenant's decision concerning land use whether he has lived on a farm for 1 year, for 5 years, or for 10 if, at the beginning of any particular year, he does not have a reasonable assurance that he will operate the same farm the following year. Whether or not this point of view is true is neither objectively proved nor concretely

demonstrated by the data analyzed in this study. The analysis has, however, measured and accounted for a considerable number of factors that do not explain the differences in the type of farming followed by tenants and that followed by owners. The insecurity of tenant tenure is offered as a partial explanation of these residual differences.

Another partial explanation of the difference in farm organization between tenants and owners in the Corn Belt probably lies in the marked prevalence of crop-share leases. The prevalence of crop-share and crop-share-cash leases in the Corn Belt has been variously estimated to be from 60 to 80 percent of all leases. Crop-share leases provide for a division of the crop products of the farm. Such a division of receipts or products inherently favors the use of land for crops, and particularly the use of land for the production of cash crops -- corn and soybeans. This type of lease causes exploitative farming on rented farms because the landlord derives a greater return from the farm if a major portion of the land is used for cash crops.

The development of livestock herds and pastures is pinched out between these two forces. When, as under ordinary Corn Belt leases, the tenant must pay the landlord from  $1/2$  to  $3/5$  of the grain produced on the farm, it is unlikely that rotation pastures and livestock herds will play any great part in the farm organization of crop-share tenant farmers, insofar as the decision rests with the landlords. As with insecurity, the influence of the prevalence of crop-share leases is offered merely as a suggested explanation of the residual differences in the farm organizations of owner and of tenant farmers which are not explained to any appreciable extent by the factors considered in this study.

As the preceding analysis has indicated, this investigation using census data and necessarily following census classifications should be considered merely as an exploratory study. As such it presents a strong implication that tenant tenure is a causal factor in exploitative farming. If the method followed has been sound and if the results are applicable outside the areas studied, this analysis should form the basis for more detailed and comprehensive investigations of the field-survey type which will provide factual data for an objective evaluation of the institution of tenancy with reference to one of the most pressing land-use problems of the agricultural area of the Corn Belt -- soil erosion.

The two questions requiring intensive field investigations of the conditions on individual farms appear to be these: (1) Is the rate of soil erosion greater on tenant farms than on owner-operated farms? (2) If it is, what features of the institution of tenancy are responsible for this condition? The study reported in this monograph affords a provisional answer of "yes", by implication, to the first question, and indicates that neither differences in farm size nor in stability of occupancy explain the differences in farm organization



between tenants and owners.

The rate of soil erosion is a physical phenomenon resulting from a complexity of physical conditions, of which the most amenable to change by the farm operator are land use and the erection and maintenance of physical preventives. Soil-erosion experiments, both at Federal experiment stations and at the various State agricultural experiment stations, have provided concrete and objective evidence of these relationships. We know in a fairly definite way the physical conditions of land use and management that lend themselves to conservational farming. The field investigation to answer the first question posed above should make utmost use of this knowledge.

A number of the physical conditions affecting the rate of soil erosion are not subject to the control of the farm operation; these conditions, such as the rate and intensity of precipitation, slope, and physical structure of the soil, should be recorded for each farm and considered as constants in the analysis. Others of these physical conditions are amenable to change by the farmer and may be considered in the analysis as objective criteria for the determination of the conservational or exploitative nature of farm management methods. Conditions of this type are land-use patterns, presence and maintenance of terraces, strip cropping, and gully control.

Along with these objective evidences of the conservational or exploitative nature of farm-management practices, the soil-erosion condition of each farm should be used as a dependent variable. Thus, using as criteria the actual evidence of erosion plus the physical characteristics of exploitative farming, the farms falling in different control groups can be given a "conservation-practice index".

As in the present study, farm size and the number of persons per acre of land should be held constant in the analysis. In regard to the latter, it is the number of persons forming a part of the operator's family, not including hired laborers, that is important.

The master-control grouping of assumed independent variables should be based upon tenure status. As was pointed out in the discussion of method in an earlier part of this study, the tenure-status classification should be more detailed than is possible with census data. The "full owner" classification should be broken down according to the proportion of farm value involved in mortgage indebtedness. Part-owners and managers may appropriately be disregarded in the first Corn Belt studies. The tenant classification should be divided into the various types of tenancy that are of importance in the area studied.

Since a considerable number of the conditions suggested for use as evaluation criteria are a result of farm-management decisions made before the year of the survey, the tenure history of each farm should be obtained, thus affording an added basis for setting up the various cross-classification groups. Of the same nature is the determination of

the degree of latitude that is exercised by the farm operator in farm-management decisions. For Corn Belt studies, it is probable that strict landlord control is of such minor importance that this class of tenants need not be analyzed, although their schedules should not be placed in the same class with tenants who exercise almost complete initiative.

Of the secondary independent variables, the security with which each operator occupies his farm appears from the present study to warrant detailed analysis. As this factor is almost completely subjective, being an attitude or state of mind on the part of the farm operator, its inclusion would be difficult and is a matter on which a productive method of investigation has yet to be developed. But it should not present an insurmountable obstacle to the investigation. Although this study gives only a hint that length of continuous occupancy on the same farm has any causal relationship to land use, this factor should be included as one of the secondary independent variables, as should a comprehensive analysis of the leasing provisions of rented farms.

Measures of variation as well as of central tendency should be calculated for each of the control groups, thus affording a measure of the significance of the results obtained.

This brief survey of the field investigations necessary for an objective and conclusive evaluation of the institution of tenancy as it affects soil erosion, serves not only to throw a clearer light upon the preliminary nature of the present study but also to give a general outline of the difficulties facing the investigator who seeks to establish conclusively the relationship between tenure status and the conservational or exploitative nature of farm-management practice. None of these difficulties appear, however, to be of such nature that it cannot be overcome by careful analytical methods. In the actual technique of gathering factual data the records on soil-erosion conditions and presence and maintenance of physical soil-erosion preventives should be obtained by trained persons who are familiar with this type of work. The acquisition of accurate tenure histories for the farms will require careful and tedious work, but will more than repay their cost in the added conclusiveness of the results of the study.

Finally, it may be said that any method of schedule distribution that will obtain an accurate and unbiased sample should be appropriate; subject only to the caution that adequate control should be exercised, and that differences in locational, climatic, and topographical conditions are taken into account so that the final results will be free from doubt engendered by the method of sampling.

The need for acquiring ample factual data upon which to base a conclusive objective evaluation of farm tenancy in the Corn Belt becomes obvious when the social costs of the highly probable concomitant conditions of a marked prevalence of tenancy and the exploitative nature of



tenant farming are considered. If farming under tenancy continues to be as important in social destruction as indicated indirectly by the present study, it is only a matter of time before progressive soil erosion reduces the productive capacity of the Corn Belt to the point at which, under present standards of operation, the land will be abandoned.

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